

# FLIGHT

The  
AIRCRAFT ENGINEER  
AND AIRSHIPS

First AERONAUTICAL  
WEEKLY IN THE  
WORLD

Founded in 1909 by Stanley Spooner

DEVOTED TO THE INTERESTS,  
PRACTICE AND PROGRESS  
OF AVIATION

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## The Government's Air Policy

MR. CHAMBERLAIN'S speech at the meeting of the Conservative party at Bristol was informative as well as tactful. It was no mean exercise of tact to draw the impetuous Lord Lloyd into line with the Government, and to get a resolution passed which satisfied all sections of Conservative feeling. The resolution as finally passed ran:—"That this conference desires to record its grave anxiety in regard to the inadequacy of the provisions made for Imperial defence, and assures the Chancellor of the Exchequer that, heavy as are its burdens, it prefers the security and safety of our native land above all other benefits."

In moving this addendum, Mr. Chamberlain told the conference that the Government had made a prolonged investigation of the defences of the Empire in conjunction with those who can speak with the greatest authority on behalf of the various Services, and had formulated plans which, however, might have to be altered in one direction or another as time went on and the conditions changed. The only definite pronouncement which the Government had made was about the Air Force, because an attack from the air might affect personally any man, woman, or child in the country. That did not apply to the same extent to attacks by armies or navies.

Everyone will feel happier for knowing that the Government has made this careful examination of the subject, and that it is not so besotted with ideals as to have overlooked the realities of the situation. Cautious advance by leaders who know what they are doing inspires confidence. The country in general has lately been disturbed because all the indications were that the Government was more devoted to making gestures at Geneva than to guarding the country from danger. Mr. Chamberlain's speech has cleared the air.

The Chancellor's warning against undue hurry was also timely. "Do not make the mistake," he said, "of supposing that if you are in too great a hurry to increase your responsibilities you can have so efficient a Force

as if you carried through an ordered plan. To make your Air Force efficient it must be properly balanced, with a proper amount of stores and supplies and different types of aeroplanes which must be adapted to the different purposes they have to serve. If you are going suddenly to bring in some new type before it has been thoroughly tested, or if you are going to develop one part of the Air Force out of proportion to the rest, you will not have such a good Force as if you had had time to develop it in an orderly manner."

Evidently Mr. Chamberlain is no convert to the idea (with which we dealt in a leading article last week) of having one General Purpose type for nearly all duties. It is quite true that ordered development will produce better results than panicky haste. Certainly introduction of a new type before it has been thoroughly tested is about the last crime of which we should think of accusing the Air Ministry. They are very deliberate in this matter, and quite rightly so. Where we are inclined to criticise the Ministry is for lack of haste in distributing a new type once it has been tested and approved. The new type is almost always out of date before it has reached the last of the squadrons for which it has been intended. It is to be hoped that the Ministry will not interpret Mr. Chamberlain's speech as an excuse for delaying reform in the distribution of new types.

## Progress

WITH the start of the England-Australia Race little more than a week ahead, we have felt that a record of the attempts, successful and otherwise, which have previously been made to bring closer together the "Old Country" and Australia could not fail to be of interest to readers of *Flight*. The list will be found on pp. 1062-1063, and it is surely indicative of the enormous strides made during the fifteen years since the first flight was made that the time of four weeks will very probably be reduced by the winner of the MacRobertson Race to well under four days. It is fitting that in contemplating the immediate

future we should pay homage to those gallant souls who, by their efforts, have "blazed the trail" so that in 1934 dozens of aeroplanes, large and small, fast and not-so-fast, can undertake the flight to the Antipodes without incurring undue risks. We should in the first instance remember those who first achieved success: Sir Ross Smith and his brother, Sir Keith Smith, and their two engineers, Bennett and Shiers. In four weeks, over more or less unknown country and through weather conditions of which no accurate knowledge was available in advance, these four struggled on heroically, sometimes faced with disaster, and ever facing the unknown. They ultimately got through, and the two brothers were very properly awarded knighthoods for their services. Flying claimed Ross, but Keith is, happily, still with us, and it must give him great satisfaction to watch the preparations for the England-Australia Race, and to know that he and his brother played a very important part in making possible the great race which is due to start from Mildenhall on October 20. Nor should we forget those whose efforts were not crowned with success, but who, for all that, did their best to link the distant commonwealth with England by air, some of them giving even their lives in the attempt.

It does not require great imagination to picture the main differences between 1919 and 1934 as far as the England-Australia route is concerned. To begin with, the aeroplanes of those days were a very long way from

being the efficient engineering triumphs which modern aircraft are. Weather reports and forecasts for the route were "sketchy" in the extreme. Wireless had not the range and reliability of modern equipment, and petrol and oil supplies had to be placed at suitable points by very special and expensive arrangements.

To-day the position is vastly different. Thanks largely to the early efforts made by a relatively few venturesome spirits, the air route to Australia is well established, with a complete ground organisation, meteorological service, and so forth. So much is this the case that those responsible for drawing up the regulations for the England-Australia Race were able to stipulate that all aircraft entered must conform to standards laid down internationally for the safety of aeroplanes. This fact alone makes the MacRobertson Race an outstanding event. *Flight* readers will be aware, although the large masses of the general public probably do not realise it, that most of the epoch-making flights, such as those across the Atlantic, have been made in machines loaded up to the very limit with fuel and oil. So long as the machines could stagger into the air, that was all that was demanded in the way of safety measures. In the England-Australia Race it is a very different story. Machines must, as we pointed out last week, be able to clear an obstacle 65.6 feet high in a horizontal run of not more than 656 yards. That effectively rules out the overloaded unairworthy machine.

14285



**THE MASTER HAND:** An impression of Mr. P. W. S. Bulman piloting the Hawker high-speed "Fury." The machine from which the picture was taken was also doing a banked turn. (*Flight* Photo.)



# The Outlook

## A Running Commentary on Air Topics

### Salvage

**A** SALVAGE claim by the trawler skipper who took part in rescuing the American "flying family" off Greenland was recently dismissed at Aberdeen.

The Sheriff dismissed this case with great reluctance, as he thought that the claimant had performed meritorious service deserving of pecuniary recompense.

According to the strict letter of the law, it seems, no salvage claim is recognisable if an aeroplane is wrecked outside his Majesty's jurisdiction, and it would appear that, according to the unwritten law of gratitude, no pecuniary reward came the skipper's way either. He took, or was ready to take, such risks as are incidental in saving life and property at sea, and he lost valuable time. Incidentally, he rescued cinema apparatus estimated at about £300. It is perhaps old-fashioned to mention sportsmanship in these days when cricket is the image of war with only 95 per cent. of its danger, and yachting is a matter of business—queer business at that. The presence of the trawler skipper and his willingness to help might have meant the difference between life and death. Sportsmanship, however, still lingers, no doubt, amongst North Sea skippers, and American aviators semi-submerged just outside his Majesty's jurisdiction need not fear that trawlers will hoist a flag of protest and sail away merely because the sinking aeroplane is the wrong side of an imaginary line and the right side of a lawyer's quibble.

### In South Africa

**O**NLY a person who has followed the events in South African civil aviation, and in particular those connected with Union Airways and South African Airways, very closely since 1932 could possibly pass final judgment on their present troubles. There is, however, something very wrong with the present arrangement, and matters were brought rather to a head by the extraordinary series of forced landings made by the Junkers machines during July. These mishaps, curiously enough, coincided with the return of two ground engineers to Germany.

One has only to study the records of Junkers machines and of the particular American engines with which they are fitted to realise that the fault can only lie with the system of maintenance. Since Major Miller's old company was taken over by the Government and renamed South African Airways, civil and military aviation have been, to all intents and purposes, under one head—that of Mr. Pirow, Minister for Railways and Defence. Apparently the introduction of the S.A.A.F. ground engineers has not increased efficiency or improved the morale of the civil staff.

### A Little History

**T**HE whole business is merely the crux of an extremely difficult affair about which opinions in South Africa appear to be divided.

In 1932 Major Miller's company was, after the crash of its largest machine, in a difficult position, and he enlisted the help of Mr. Hoepfner, of South-West Africa Airways, a company operating with German machines—and, presumably, German capital. In due course Mr. Hoepfner was made managing director of Union Airways, and the routes were covered, of course, by Junkers machines.

The South African Government eventually took over, and an £85,000 order was given to Germany by Mr. Pirow. There was a good deal of trouble because German machines

with American engines rather than British machines and engines had been purchased, but, everything else being equal, there is no reason at all why the company should not buy the equipment best suited to its needs. It was, in fact, the manufacturer's job to produce the suitable machine in competition. But people did not believe the question to be as simple as all that, and there the matter rests.

The facts remain, however, that South African air lines are not being run as well or as efficiently under Government control as they were under the control of the old company, and that Major Miller himself, who has had more experience of civil aviation than any man in South Africa, has been left in a comparatively trifling position.

### Cheaper Air Mails

**A**DMIRAL MARK KERR has our full approbation in the suggestion which he makes on our Correspondence page, namely, that a low flat rate for Empire air mails would be the greatest boon which the Postmaster-General could confer upon the public. Sir Kingsley Wood is proving himself the most enterprising and popular P.M.G. which the country has had for many years. He has reduced telephone charges, he has sanctioned inland air mails, and now he has reduced the charges for parcels sent by air. That is a good record. A low flat rate for Empire mails would be best of all, and it is by no means certain that such an innovation would result in loss of revenue to the Post Office. There is a very strong probability that before very long the greater use of the air post would bring in larger returns. The experiment ought to be tried. It would certainly be to the advantage of Empire commerce.

### An Invitation?

**G**EN. DENAIN, the French Air Minister, is reported to have expressed some views on the air defence of Great Britain. In view of the speed of modern bombers, he holds that we must organise our defence on the Continent. Great Britain, he said, needs a covering zone, which should vary in depth according to the speed of the enemy's machines. These remarks seem like an echo of Mr. Baldwin's remark that now our frontier for air defence was on the Rhine. That naturally gave no little pleasure to France, suggesting as it did future British co-operation in the defence of French territory from aggression. Gen. Denain's words, if he has been correctly reported, seem to carry the matter farther. One can hardly help wondering whether the French Air Minister was actually proposing that British defence posts should be located in France in peace time. Well, so long as there is danger of war, it is always a good thing to take all precautions for it before the foe is at the gate. We do not imagine that anybody would seriously contemplate our sending over parties of listening-posts, anti-aircraft guns and searchlights to practise in France—still less that France should allow us to establish permanent aerodromes for fighter squadrons on her side of the Channel. But there would be no harm done if certain tactical positions were marked out by mutual agreement for occupation by British air-defence units in case that it should ever happen that the two countries again became allies in repulsing a common foe. Everyone hopes that the need for such an alliance will never again arise, but a knowledge that the strength of France and of Great Britain would be combined to meet an aggressor would be a strong guarantee of peace.

# WHO'S WHO in the ENGLAND-AUSTRALIA RACE

## Introducing Some of the Competitors

(Continued from page 1022)

### Racing No. 36.—J. Woods (Australia)

**J**IMMIE WOODS is reluctant to talk about himself, and cannot believe that anyone is interested in such personal matters as his age and birthplace. He was born "in Scotland about thirty-nine years ago," served with R.F.C. and R.A.F., and has flown some 11,000 hours.

Like Kingsford-Smith, Woods was for many years—eleven, to be exact—a pilot with West Australian Airways, Ltd., flying Bristol Tourers, DH50As, Hercules, and Vias-tras up and down the 2,035-mile coastal route from Perth to Wyndham, and across the 1,453-mile transcontinental route from Perth to Adelaide. When the coastal contract was allotted a few months ago to the Robertson-Miller Aviation Co., Ltd. (David Robertson, by the way, is younger brother of Sir Macpherson), Woods became manager of the service, which now extends some 2,400 miles, from Perth (Western Australia) to Katherine (Northern Territory).

In 1933 Woods flew a Gipsy II Moth from Australia to England. [In parenthesis, it may be noted that this achievement was omitted from a list of flights between England and Australia published in *Flight* on August 30. Its author states that the list was compiled from memory, and did not pretend to be complete. Other flights to Australia are those of Moir and Owen, from England; Fraulein Beinhorn, from Germany; Charles de Verneille, from Paris; and Karl Nauer, from Switzerland.]

On Woods' present visit to England, he left Sydney on June 26, spent some time at the Lockheed plant in Burbank, Cal., and with the Douglas Company at Santa Monica, and flew across America in one of the new Boeing 247s, which he describes as a very clean job. (Col. Roscoe Turner has entered one of this type for the race.) Woods reached England from New York on August 6, collected the late Lt.-Com. Glen Kidston's Vega at Hanworth ten days later, and flew it over to the Lockheed European agents (Fokker) at Rotterdam for general overhaul, increase of tankage, and fitting of a Hamilton v/p airscrew. Later, he flew it back to Heston, where it has been repainted. The name of his co-pilot will be disclosed "at the proper time." It will not be Horace Miller.

Woods' young wife took her "A" licence some five years ago with the West Australian Aero Club.



**TO FLY AMERICAN MOUNTS:** Mr. "Jimmie" Woods will head towards Australia in a Lockheed "Vega" (No. 36), while Col. J. C. Fitzmaurice's Irish entry is a Bellanca low-wing monoplane. A photograph of the latter machine will be found on page 1053.

### Racing No. 44.—K. D. Parmentier and J. J. Moll (K.L.M.—Holland)

Koene Dirk Parmentier was born in Amsterdam on September 26, 1904. Trained in the Dutch Air Force, and one of the first Dutch pilots to qualify for a navigator's licence, he joined K.L.M. in 1929 and has flown some 5,000 hr. on its mail routes, chiefly as commander of Amsterdam-Batavia liners. Last year he spent four months in America, night-flying over various routes and studying their operation. Recently he revisited the U.S.A. for acceptance tests of the Douglas DC2 which K.L.M. have entered for the race, and flew it, transcontinent, from Santa Monica (Cal.) to New York, for shipment to Holland.

Jan Johannes Moll was born at Surabaya on March 6, 1900, and entered K.L.M. by way of the Netherlands-Indian Air Force and K.N.I.L.M. In 1931, with Capt. Pattist (now K.L.M. Chief of Flying Services at Schiphol), Moll flew a Fokker FVII B (*Abel Tasman*) from Batavia to Melbourne and back. His Indian Archipelago flying experience is probably unique.



**A HOLLAND-AMERICA COMBINATION:** K. D. Parmentier and J. J. Moll will pilot a Douglas D.C.2 (No. 44) belonging to the K.L.M. in the Race.

### Racing No. 62.—J. K. C. Baines and Flt. Lt. H. D. Gilman (New Zealand)

Although a "New Zealand" entry, the above team is of Anglo-Australian birth. James Keith Campbell Baines was born at Woodford, Essex, on December 21, 1905; Harold Darwin Gilman at Neutral Bay, Sydney, on April 29, 1906.

Baines joined the N.Z.A.F. in 1925, training at Palmerston North and Wairapa. If the Fairey "Fox" which he has entered for the race is not ready to start, it will be through no delay of Baines in reaching England to make preliminary arrangements. He arrived in London from New Zealand on March 26. He sold his Avro "Avian," just before departure, to a brother-officer in the N.Z.A.F. Reserve, and embarked for England in January, via Australia and South Africa. During the ship's stay in Sydney, Melbourne, Adelaide, Perth and Capetown, Baines kept his hand in with flights on machines hired from the local aero clubs. To date he has flown 3,860 hr. His "Fox" was purchased at Hounslow from Anderson Aircraft and is being modified at Hanworth by N.F.S., Ltd., as a replica of the sister-machine entered by Raymond Parer. Its capacity has been increased to 175 galls., and its range to about 1,750 miles. Whilst awaiting delivery of the "Fox," Baines has been making approach landings at Mildenhall. He expresses himself delighted with the new aerodrome, its freedom from obstruction, its perfect run, and its billiard-table surface.

Flt. Lt. Gilman took his "A" in 1926 with the Auckland Aero Club. Shortly afterwards he joined the N.Z. Staff Corps





**AN ANGLO - AUSTRALIAN - NEW ZEALAND ENTENTE: J. K. C. Baines and H. D. Gilman are flying a Fairey "Fox" (No. 62) with Fairey "Felix" engine.**

and was sent to Aldershot in 1928 on attachment to the Suffolk Regiment. In 1929 he was transferred to the R.A.F. "Refreshed" at No. 2 F.T.S. (Digby), he was posted to No. 101 (Bomber) Sqd. at Andover, under Wing Com. F. H. Coleman, whose adjutant he remained until 1933. Gilman took part in all squadron experiments, including the high-precision bombing of H.M.S. *Centurion*. Last year, on conclusion of the annual Combined Exercises, he was sent as assistant adjutant to No. 600 (City of London) Sqd. under the late Sqd. Leader S. B. Collett. Finally, after brief attachment to the C.F.S. (Wittering), he was posted to the newly formed No. 15 (Bomber) Sqd. at Abingdon, of which he commands "B" Flight. His log-books show 1,560 hr.

Gilman has been granted special leave to accompany Baines in the race to Australia. His mother and sister, now in New Zealand, are visiting Melbourne to see the finish.

#### **Racing No. 2.—Sqd. Ldr. M. C. McGregor and H. C. Walker (New Zealand)**

Sqd. Ldr. Malcolm Charles McGregor, D.F.C. and bar, is a picturesque character frequently mentioned in *War Birds*. He commanded the Flight (in No. 85 Sqd.) in which both Elliott White Springs and the anonymous diarist served. The "Diary of an Unknown Aviator" is eloquent of exploits shared by "Bish and Mac," the former being Lt. Col. (then Major) W. A. Bishop, V.C. The laconic entry: "Bish and Mac got one each" becomes almost monotonous. But McGregor, who arrived in London (via Auckland, Sydney and Vancouver) on September 21, refuses to discuss these war-time encounters. Rapidly blinking a pair of bright blue eyes above a small brown moustache and pugnacious chin, he pleads lapse of memory; says he cannot even recall the name of the New Zealand town in which he was born; but he knows the date—March 3, 1896.

Transferred from A.I.F. to R.F.C. early in 1916, and trained at Oxford, Netheravon and Upavon, McGregor served

six months in France with No. 54 Sqd. (Sopwith Pups) before joining the redoubtable No. 85 (S.E.5A) on its formation at Hounslow under Major Bishop. He remained with the latter until demobbed in 1919. He then returned to New Zealand.

A member of the N.Z.A.F. since its formation in 1921, McGregor has also engaged in various civil activities. He was a partner in the now-defunct joyriding venture, Hamilton Airways. With a DH50 borrowed from the N.Z. Government, he operated a passenger service between Dunedin and Christchurch. With a Spartan he made a series of First Official Mail Flights throughout the Dominion. These and many other enterprises ended in 1932 with his appointment as chief instructor to the Manawatu Aero Club. He has flown 3,300 hr.

Henry Campbell Walker ("Johnnie" Walker to his friends) was born in Edinburgh on March 15, 1908. Eight years later he accompanied his parents to New Zealand and now resides at Palmerston North. "Captain" of the Manawatu Aero Club, he took his "A" licence there in 1930 and the "B" in 1933. He has flown some 250 hr.

Major McGregor arrived in this country on the s.s. *Aorangi* on September 19, and was subsequently supplied with his machine at Reading.



**"VICEREGAL": S. L. Turner and T. Neville Stack are flying an Airspeed A.S.8 (No. 58), with Siddeley "Cheetah" VI supercharged engines. Some notes about their machine will be found below. (Flight Photo).**

## THE AIRSPEED "VICEROY"

**C**APT. NEVILLE STACK'S Airspeed A.S.8, or "Viceroy," as the type has been named, has been put through its official trials by a Service pilot, who flew down to Portsmouth, so that it was not necessary for the machine to be taken to Martlesham. The "Viceroy" is essentially a development of the "Envoy," and, although Capt. Stack's machine carries an exceptionally heavy load, and has been strengthened and stressed accordingly, the type is intended as a "pukka" transport machine carrying from six to eight people at a cruising speed round about 190 m.p.h. The machine bristles with exciting features. Or perhaps "bristles" is the wrong word, for it is a typically clean Airspeed design. The two supercharged Siddeley "Cheetah" VI radials, which give 315 h.p. at 7,000 ft., and which, by the way, are the only two of their type at present in existence, are enclosed in long cord N.A.C.A. type cowlings, with inter-cylinder baffles. Annular oil coolers form the nose of the cowlings. The airscrews are metal Faireys. Spinners are fitted at present, but these, of course, make little difference in front of an engine like the "Cheetah," and we understand that

they will be taken off for racing purposes. The nacelles are naturally considerably larger than those behind the Wolseley engines of the "Envoy," and extend rearwards as far as the trailing edge of the wing.

To the rear of the 270-gallon fuel tank, which is on the port side of the fuselage, is a small lavatory. A canvas bed, which may be rolled up when not in use, is attached to the starboard side of the fuselage.

Forward of the tank is a table, beneath which is the Plessey A.C.44 radio apparatus, with the control unit mounted above the table. Certain of the cockpit windows have been covered in to make conditions more comfortable for the pilot when flying under tropical conditions. Among the interesting items of equipment in the cockpit are the boost controls and gauges for the supercharged engines, Sperry Artificial Horizon and Directional Gyro, Reid and Sigrist turn and bank indicator and the drift sight. Smith's instruments are much in evidence. "Antifyre" extinguishers are provided at strategical points, and a P.B. automatic control may yet be installed. The machine is finished in red and white.

# ENGINES IN THE ENGLAND-AUSTRALIA RACE

(Continued from p. 1021)

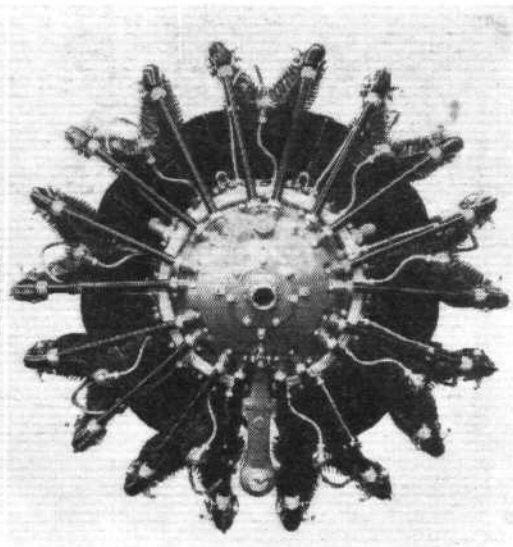
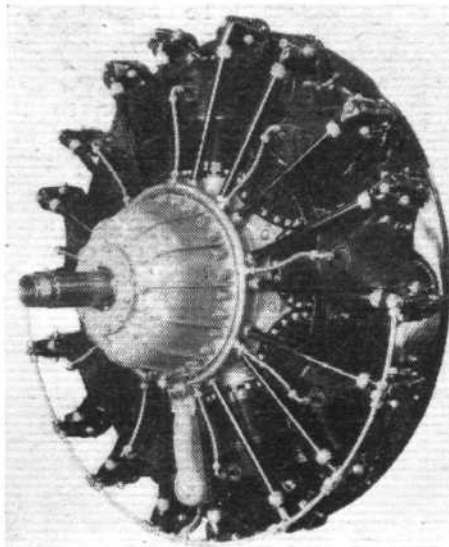
This week we deal with engines of foreign manufacture. The preponderance of American radials is not to be wondered at, for the majority of these engines have been developed for operation in low-drag cowlings on fuel of high octane value, making them attractive propositions for installation in racing aircraft.

## U.S.A.

### The Pratt & Whitney Aircraft Company

THERE are more engines of this company's manufacture in the race than of any other make. The famous "Wasp" seems to be the most popular type. "Wasps" of various patterns have been installed in a very large number of record-breaking aircraft for several years past, and to-day are widely used in high-performance military and civil machines throughout the world. Fokkers operating on the K.L.M. Amsterdam-Batavia route are powered with "Wasps," and have acquired an enviable reputation for reliability.

The "Wasp" is a nine-cylinder air-cooled radial of typical American appearance. Various types are being employed in the England-Australia racers, namely, the S1D1, SC1, S1H1-G, and S1E. All engines in the "Wasp" series have a bore and stroke of 5½ in., and weigh approximately 750 lb. The S1D1 is rated at 550 h.p. at 2,200 r.p.m. at 5,000 ft. Compression ratio is 6:1, blower ratio 10:1, and fuel consumption 0.48 lb. per b.h.p./hr. at cruising speed. Rated at 450 h.p. at 2,100 r.p.m. at 6,000 ft., the model SC1 has a compression ratio of 4½:1 and a blower ratio of 10:1. Most modern of all the "Wasps" is the S1H1-G, two of which type are installed in Col. Roscoe Turner's Boeing 247-D. This is a new geared and supercharged engine rated at 550 h.p. at 2,200 r.p.m., with a 6.5:1 compression ratio, 12:1 supercharger drive, and 3:2



**"WASPS":** The S1H1-G as installed in Col. Roscoe Turner's Boeing, and (right), the standard "Wasp" series D and E used by numerous competitors.

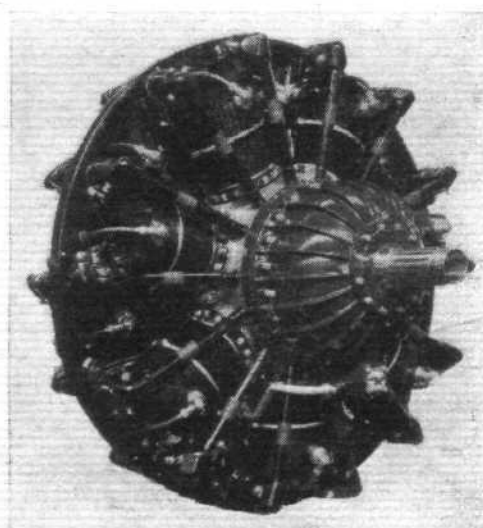
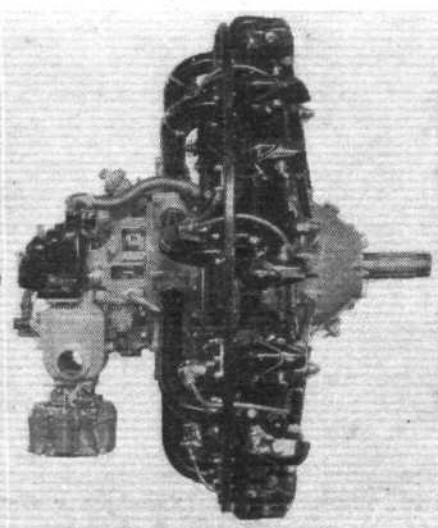
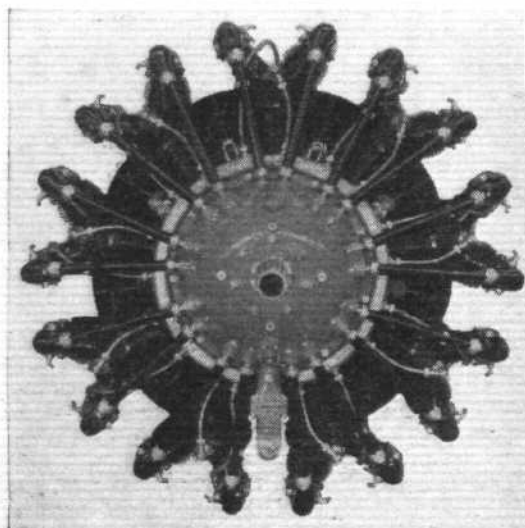
airscrew reduction gear. Lt. Murray B. Dille's long-range "flying wing" Vance "Viking" has a "Wasp" S1E, giving 550 h.p. at 2,200 r.p.m. at 9,000 ft. Fuel consumption is given as 0.55 lb. per b.h.p./hr. at full throttle. The "Wasp" in Wiley Post's Lockheed "Vega" is a special type, virtually a modified "Wasp" C provided with auxiliary superchargers. On the official entry form for the race the power of this engine is given as 350 h.p. at 36,000 ft. A description of the supercharging system was given in *Flight* of August 16.

A Pratt & Whitney "Hornet" engine is being used in the Northrop "Delta" No. 22. Essentially an enlarged "Wasp," the "Hornet" has a displacement of 1,690 cubic inches, while that of the "Wasp" is only 1,344 cubic inches. The "Delta" uses a "Hornet" SD1 giving 600 h.p. at 2,050 r.p.m. at

2,500 ft. and consuming fuel at the rate of 0.48 lb. per b.h.p./hr. The compression ratio is 5:1 and the supercharger ratio 8:1. Four "Hornets" power the big Sikorsky S.42 flying boat which recently broke several world's records.

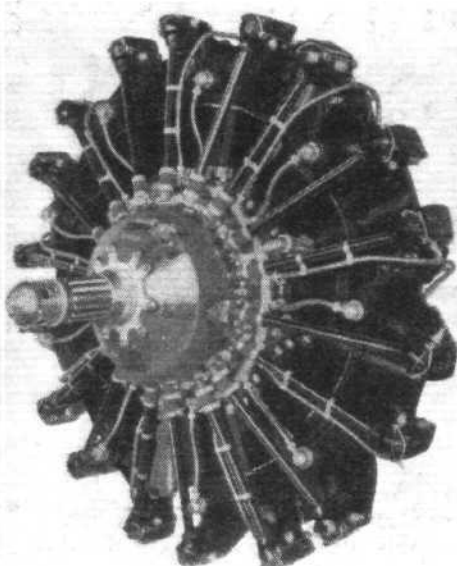
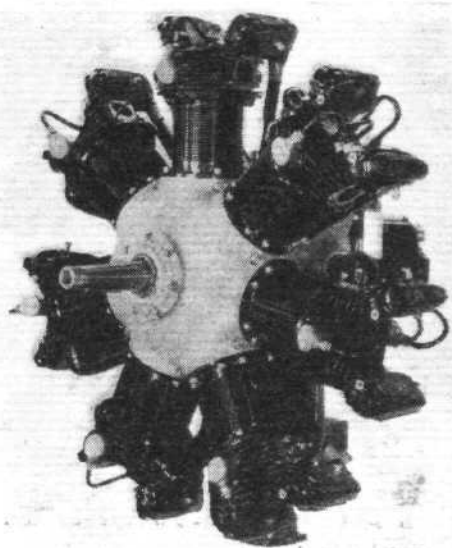
Installed in the Keith Rider R-3 No. 9 is a Pratt & Whitney "Wasp Junior" which, as the name denotes, is a "scaled down" version of the "Wasp." The displacement is 985 cubic inches, the supercharger drive 11:1, and the power 375 h.p. at 2,300 r.p.m. at 7,000 ft. At full throttle the fuel consumption is 0.55 lb. per b.h.p./hr., and the oil consumption 0.35 lb. per b.h.p./hr.

Most powerful and interesting of the Pratt & Whitney engines in the race is the new "Twin Wasp Junior" installed in Col. Fitzmaurice's Bellanca monoplane *Irish Swoop*. This is a 14-



**PRATT & WHITNEY RADIALS.** "Wasp Junior," "Hornet," and "Twin Wasp Junior." The latter is one of the most modern engines in the race and is used in the Bellanca *Irish Swoop*





140 H.P.-710 H.P. : The Warner "Super Scarab" and the Wright "Cyclone" Series F.

cylinder geared and supercharged two-row radial of extremely compact appearance giving 700 h.p. at 2,500 r.p.m. at 8,500ft. The displacement is 1,535 cubic inches, blower ratio 11:1, gear ratio 3:1, and bare weight 994lb. Fuel consumption is 0.48lb. per b.h.p./hr. at full throttle, and oil consumption 0.035lb. per b.h.p./hr. Great interest is being displayed in this engine by the U.S. Navy, which standardises on air-cooled types.

### Warner Aircraft Corporation

"Scarab" and "Super Scarab" engines manufactured by the Warner Company are highly popular in the United States for installation in light aircraft. Both types are represented in the race, a "Scarab" being fitted in a Cessna monoplane and Mr. John H. Wright's "clipped wing" Monocoupe racer having a "Super Scarab." The "Scarab" is a seven-cylinder air-cooled radial giving a maximum power of 132 h.p. at 2,150 r.p.m. at a dry weight of 270lb. Fuel consumption is from 6 to 8 gallons per hour. The "Super Scarab," which in Mr. Wright's monocoupe is equipped with a special long cord cowl, is similar to the "Scarab" except for an increase in bore, and gives 145 h.p.

### The Wright Aeronautical Corporation

Famous for its "Whirlwind" and "Cyclone" engines, both of which types are represented in the England-Australia race, this company, which is a division of the Curtiss-Wright Corporation, produces also the famous Curtiss "Conqueror" and "Super Conqueror" types, which may be cooled either by water or Prestone. The Wright "Cyclone" series F is a highly popular engine at the moment, being installed in a very wide variety of extremely fast civil and military types, both in America and abroad. "Cyclone" F's are fitted in machines Nos. 4, 8, 44, 50, 57, and 64. These engines are either of the Series F.2 or F.3. The

F.2 "Cyclone" gives 710 h.p. at 1,900 r.p.m. to 3,000ft., weighs 937lb., and has a compression ratio of 6.4:1 and a supercharger drive ratio of 7:1. Fuel consumption is 6-9½ gallons per hour at 1,950 r.p.m. The F.3 type is supercharged to 7,000ft. and gives approximately the same power as the F.2.

Three Wright "Whirlwinds" of the series R-975-E power the Pander S.4 "Postjager." This engine gives 365 h.p. at 2,100 r.p.m. and weighs 595lb. Fuel consumption is 0.55lb. per b.h.p./hr.

Miss Jacqueline Cochrane's "hush-hush" Northrop monoplane is equipped with a Curtiss "Super Conqueror" which may be regarded as a supercharged version of the 12-cylinder "Conqueror" liquid cooled engine widely employed in military aircraft in the U.S.A. The power is 750 h.p. at 12,000ft. With this engine the Northrop is reputed to have a phenomenal performance.

The Curtiss D.12, the forerunner of the "Conqueror," is used in the Hosler-B. monoplane. This type has been already dealt with as the Fairey "Felix."

### FRANCE

#### Hispano Suiza

A very powerful Hispano Suiza water-cooled engine, the 12 Ybrs., is fitted in the Wibault 366. This engine, a 12-cylinder "V" type, has caused considerable discussion in aeronautical circles during the past few months, mainly owing to the fact that it delivers a very high power for an extraordinarily low weight. It is fitted in numerous French "prototype" military types and in a few new commercial aircraft. Bore and stroke are 5.9in. and 6.69in. respectively, and the compression ratio is 5.8:1. The weight dry is 946lb. At ground level the power is 800 h.p., but at 13,120ft. this is raised to 850 h.p. Fuel consumption is given as 0.49lb. per b.h.p./hr. and oil consumption as 0.017lb. per b.h.p./hr. A Hispano-built Wright "Cyclone" was to have been installed in Michel

Detroyat's Lockheed "Orion," which has been withdrawn from the race.

### Gnome-Rhône

A wide range of air-cooled engines known as the "K" series has been developed by this company in recent years. Most powerful of these engines is the 14 Krs. two-row 14-cylinder radial as installed in the Bleriot III monoplane. This type is proving very popular in France and other European countries for use in machines ranging from single-seater fighters to "gros porteurs." The capacity of the engine is 3,260 cubic inches, and the power 810 h.p.

### GERMANY

#### Hirth

Produced by the Hirth Motoren Gesellschaft of Stuttgart for the International Touring Competition, the Hirth H.M.8 U. is an eight-cylinder inverted air-cooled engine of 8,000 c.c. capacity, with a bore of 105 mm. and a stroke of 115 mm. The compression ratio is 6.5:1, and at a speed of 3,000 r.p.m. the engine develops 225 b.h.p. A reduction gear brings the airscrew speed down to 1,960 r.p.m.

In the England-Australia Race this engine will be fitted in the B.F.W.-Messerschmitt 108 monoplane. Provision has been made for mounting a three-bladed airscrew. In its general construction the H.M.8 U follows standard Hirth practice, except, of course, for the V arrangement of the cylinders.

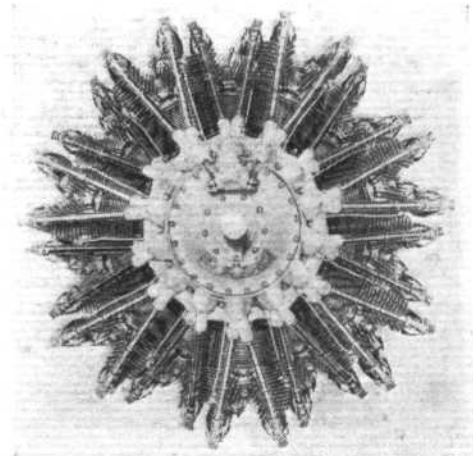
### ITALY

#### Fiat

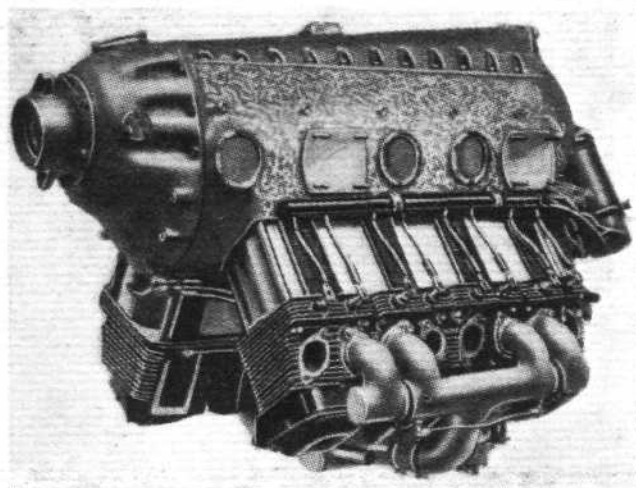
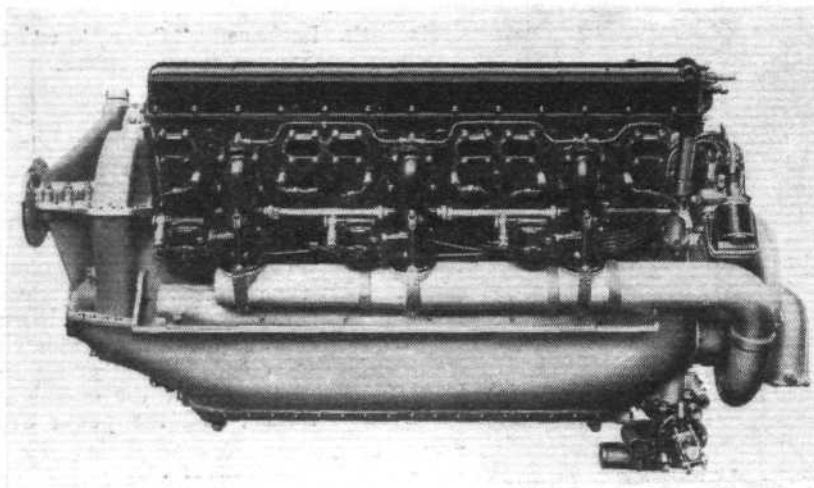
A Fiat A.59, which is a Pratt & Whitney "Hornet" built under licence by the Fiat Co., is fitted in the Bergamaschi P.L.3. The main dimensions are similar to those given for the Pratt & Whitney "Hornet," and the power is 675 h.p. at 6,000 ft.

#### Piaggio

Three Piaggio "Stella" IX air-cooled radials giving 560 h.p. at 13,000ft. are installed in the big Savoia-Marchetti S.79 monoplane. This engine has but recently been developed, and few data are at present available. It is believed, however, that the bore is 5.75in. and the stroke 6.5in.



"TWO ROW" : The big Gnome-Rhône 14 Krs. radial.



FRANCE AND GERMANY: (Left), the Hispano Suiza 12 Ybrs, and (Right), the Hirth HM 8U air-cooled inverted V type. Both engines are described on the previous page.

## NEWS OF COMPETITORS

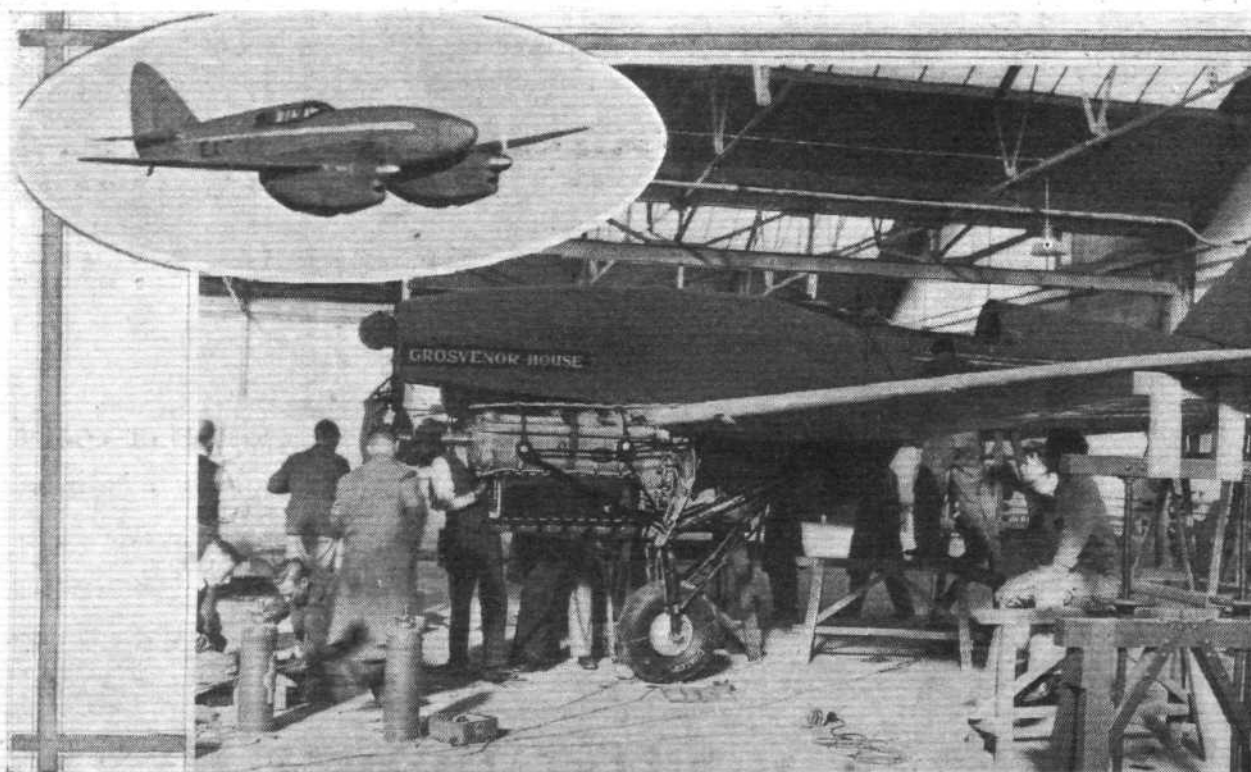
IT is definitely announced that Capt. Leon Challe and Capt. Edouard Corniglion-Molinier, will fly the Blériot III-6 monoplane with Gnome-Rhone "Mistral Major" 14Krsd engine. The main duty of Capt. Corniglion-Molinier will be that of navigator, but he will act also as relief pilot. Short biographies of both members of the crew were published in *Flight* of September 20. They had intended to fly in the Wibault 366, but found that the machine could not be made ready in time, and so arranged to take over the Blériot, which was to have been flown by Charles Quatremare.

It may be gathered from the type number of the machine that it is the sixth version of the basic Blériot III design. Actually it is now several years old, but a number of changes both in structure and equipment have recently been made under the supervision of the Blériot designer, M. André Herbemont. The machine was designed for the carriage of passengers or mail. In its original form it had wings of "high lift" section of wooden construction, and a fixed undercarriage. The pilot's cockpit was placed in the forward part of the fuselage.

Among the more important changes made by M. Herbemont to fit the machine for the London-Melbourne Race are the following. A Gnome-Rhone "Mistral Major" 14Krsd 14-cylinder two-row radial has been fitted. This engine is rated at 750 h.p. at 2,390 r.p.m. at sea level, and gives a maximum power of 1,065 h.p. for take-off. It is moderately supercharged and gives 815 h.p. at 7,220ft. A Gnome-Rhone three-bladed steel airscrew and a form of N.A.C.A. cowling is fitted. The weight of the engine is 1,243lb.

Wings of Clark bi-convex section, using duralumin box spars instead of wooden ones are now fitted, thus saving about 140lb. in weight. Ribs are still of wood and fabric is used for the wing covering. As in the original design the wings are attached to the lower part of the fuselage and are braced on each side by a pair of struts. Ailerons are statically balanced.

The main fuel tank holding approximately 167 gallons is located over the centre of gravity of the machine, an additional tank holding 89 gallons is carried in the forward baggage compartment aft of the engine, and a third tank of similar capacity



COMETARY: Grosvenor House, "Comet," No. 34, nearing completion at Hatfield, and (inset) the "Comet," nominated by Mr. Bernard Rubin, on test. (*Flight* Photos.)





THE IRISH ENTRY: Col. J. C. Fitzmaurice flying *Irish Swoop*, the "hush-hush" Bellanca (Pratt & Whitney "Twin Wasp Junior"). The undercarriage, of course, is retractile.

has been fitted in the passenger cabin aft of the main tank. Thus the fuel capacity is about 344 gallons, giving a range of some 1,250 miles.

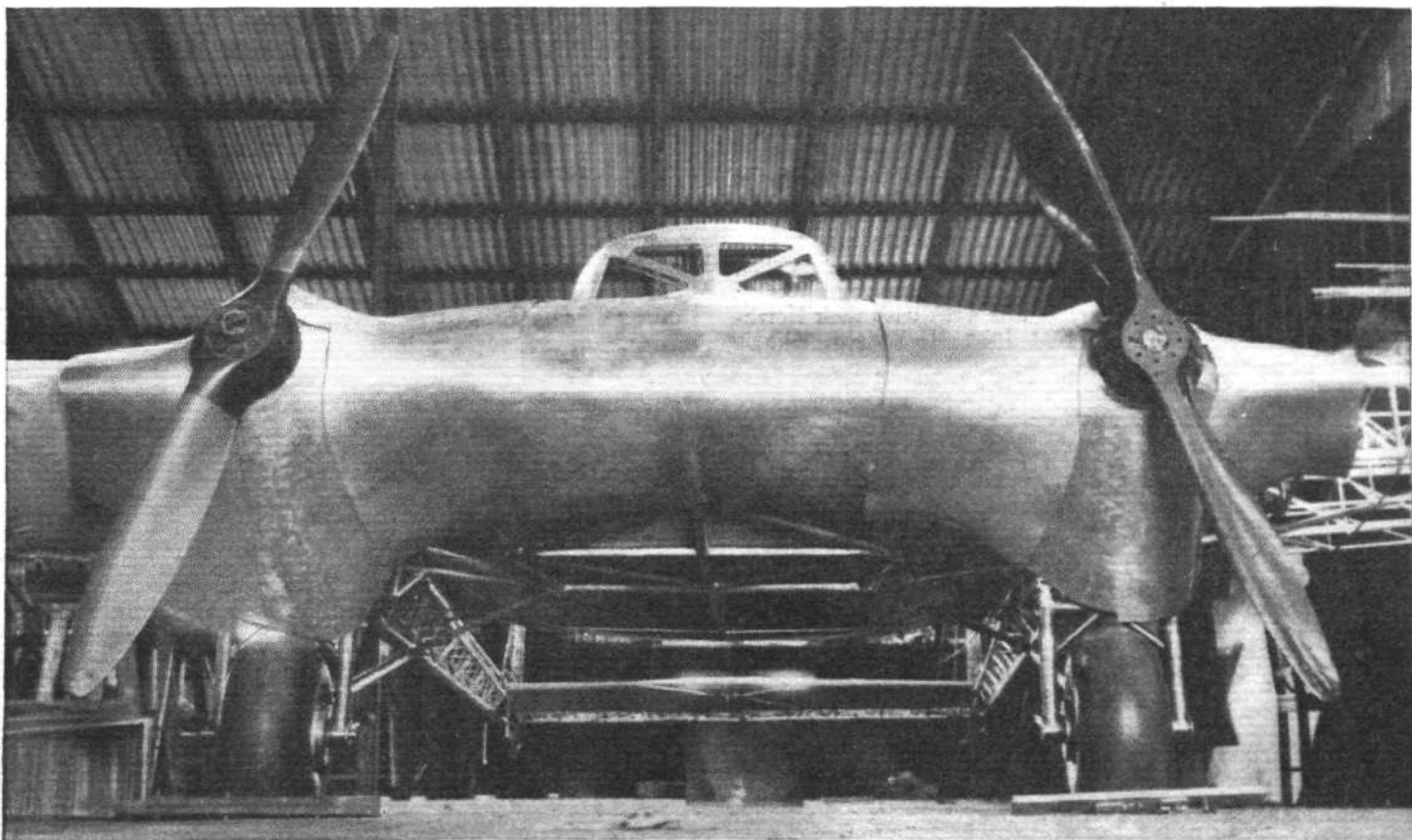
To the rear of the passenger cabin is the pilot's cockpit, which will be protected by a hood of transparent material. The seat will be accessible from the interior of the machine, the relief pilot and radio operator (an employee of Air France, we understand) being located in the rear portion of the cabin behind the second auxiliary fuel tank. With the exception of the engine mounting, which is of steel tubes, the fuselage is of wood throughout. Covering is of plywood. The retractile undercarriage has a track of 11ft. 2in.

Recently the machine has been tested at Villacoublay, and is reported to have shown a cruising speed of about 219 m.p.h. and a maximum speed of 230 m.p.h. The following are the

main dimensions of the aircraft: Span 55ft. 9in. (17 m), wing area 377 sq. ft. (35 m<sup>2</sup>), height 13ft. (4 m). A photograph appeared in last week's issue of *Flight*.

### "Comet" Does 235 m.p.h.

The first of the three D.H. "Comets" completed its official tests at Hatfield aerodrome on October 8. By the time this issue is in the hands of our readers the remaining two "Comets" will have been delivered to their owners. Complete performance figures have not been issued, but it is officially stated by the De Havilland Company that the prototype machine reached a speed of 235 m.p.h. at 1,000ft., and, at 10,000ft., at which height the machines will probably fly during the race, made 225 m.p.h. During airworthiness trials



ALL AUSTRALIAN: The Harkness & Hillier monoplane shown here under construction at Mascot Aerodrome, Sydney. It seems improbable that this machine will race.



**ON TEST :** Col. Roscoe Turner and Mr. Clyde Pangborn flying the Boeing 247-D on a test flight before shipping it to this country. The machine is now at Heston.

the "Comet" cleared the obstacle during the take-off tests by 120ft. Ratier variable pitch airscrews were fitted for all the tests, and it is probable that these will be used for the race.

### The New Guinea "Fox"

National Flying Services, Ltd., have made a very good job of the renovation of the Fairey "Fox" to be flown by Parer and Hemsworth. The "cut-out" in the trailing edge of the top centre section has been covered in to provide additional area. All strut ends and wires have been faired with celluloid. Both cockpits have been made smaller and streamlined Palmer wheels are to be fitted. A maximum speed of at least 160 m.p.h. is expected, and the range should be in the neighbourhood of 1,000 miles. Both Handicap and Speed races has been entered, and the machine will be flown day and night. Instruments will include a Sestrel drift indicator and possibly a Dove "Cloutring."

Col. J. C. Fitzmaurice flew, on Tuesday last, in his Bellanca from Bremerhaven to Eastleigh, landing *en route* at Amsterdam with a cracked cowling. The North Sea was crossed at 150 m.p.h. in order that the cowling should not be affected again.

Mr. H. W. G. Penny, who intends to fly a Vultee V-1 monoplane (Wright "Cyclone" F), has gone to America to take over the machine. In order to be at Mildenhall in time for the start he will have to make a trans-Atlantic flight. He will be accompanied by Lt. G. Pond.

Col. Roscoe Turner and Clyde Pangborn, with their Boeing 247-D (two "Wasps"), are now in this country. Their machine is at Heston. Miss Jacqueline Cochran and Wesley Smith, one of her pilots, will arrive this week with their Northrop monoplane. It appears that John H. Wright, who is

flying the tiny clipped-wing Monocoupe, will be accompanied by Mr. John Polando, who is now on his way to this country with Mr. Wright. Mr. James Granger, nominated as the pilot of the Keith Rider R-3 monoplane ("Wasp Junior"), has died of injuries received when this machine crashed at Santa Monica, California, a few days ago.

Mr. O. Cathcart Jones will fly in Mr. Bernard Rubin's "Comet" with Ken Waller.

In order to help those competitors who have not yet completed their insurance arrangements, the pool mentioned in *Flight* of August 16, is being kept open until October 16.

Aircraft Exchange and Mart, Ltd., are establishing a landing ground near Mildenhall aerodrome, and are providing facilities for servicing and minor repairs. The charge for a machine per day will be 2s. 6d., plus 1s. for each passenger. Transport will be provided between the landing ground and Mildenhall aerodrome at 6d. per head.

### MACROBERTSON ENGLAND-AUSTRALIA AIR RACE

October 20—November 4

#### PRIZES:

Speed Race: 1st. £10,000 and Gold Cup; 2nd, £1,500; 3rd. £500.  
Handicap Race 1st, £2,000; 2nd, £1,000

Fifty-nine entries representing fourteen nations

Start: Mildenhall. Finish: Melbourne.

Control points (Handicap Race in italics):—*Marseilles, Rome, Athens, Aleppo, Baghdad, Bushire, Karachi, Jodhpur, Allahabad, Calcutta, Rangoon, Bangkok, Alor Star, Singapore, Batavia, Rambang, Koepang, Darwin, Newcastle Waters, Cloncurry, Charleville and Narromine.*

Total Distance (Great Circle):—11,333 miles



**SOMETHING NEW :** The first Miles "Falcon" (D.H. "Gipsy Major") which will be flown by Mr. H. L. Brook.



## THE L.Z.129

*Contrary to many reports that have appeared, the Zeppelin Airship Works at Friedrichshafen on Lake Constance do not expect to complete the new airship L.Z.129 until some time next year*

**L**ITTLE information has been allowed to be published about Germany's new large airship. By the courtesy of the Zeppelin Co. we are able to give our readers the following authentic particulars.

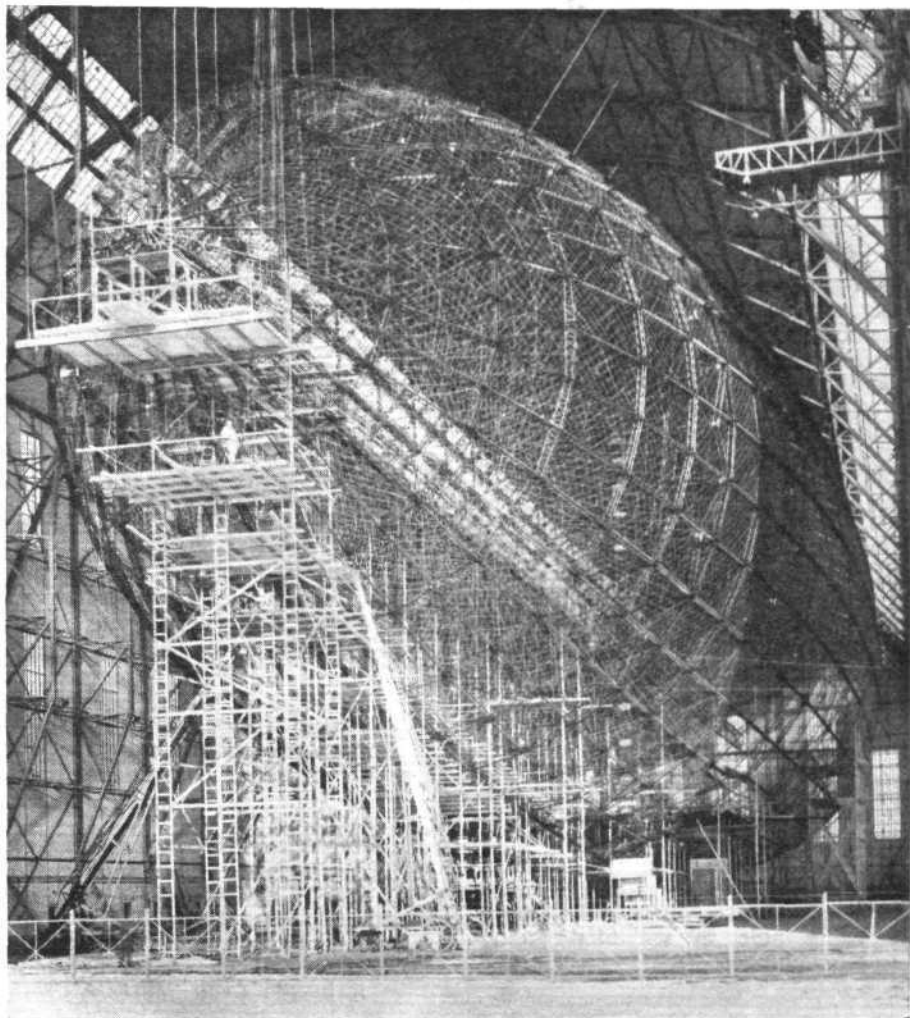
The L.Z.129 will have a length of 248 m. (813.65 ft.) and a greatest diameter of 41.2 m. (135.2 ft.), and will have a cubic capacity of 190,000 cu. m (6,709,804 cu. ft.). It is calculated that this capacity will suffice to give the required lift, even if it should be decided to use helium, which has approximately 10 per cent. less lift than hydrogen. The gas will be contained in sixteen separate ballonets which will be provided with safety valves. The ballonets themselves are being made of a material with which the Zeppelin Co. has had long experience. In the earlier days of airship work ballonets were always made of gold-beaters skin, but this is expensive, and the substitute which the Zeppelin Co. has evolved has proved very successful. A feature of the L.Z.129 is that the fineness ratio is considerably smaller than that of the *Graf Zeppelin*. The construction will be similar, and will consist of a certain number of main frames between which are auxiliary frames, while the outer form is maintained by longitudinal girders.

As in the *Graf Zeppelin*, the material used in the construction of the framework will be a duralumin alloy.

For the propulsion of the airship Maybach Diesel engines will be used, of a total power of approximately 4,400 b.h.p. The engines will be housed in engine cars outside the main hull, in the well-known Zeppelin way, and each engine car is a complete unit in itself with all the auxiliary machinery and equipment necessary for the operation of the engine. There is sufficient space in each car to allow the crew to keep an eye on the engine, and to make such adjustments and repairs as may be necessary. The engine cars are reached from the main hull through special gangways. The heavy-oil fuel for the engines will be carried in a great number of tanks, carried in the keel of the hull. They will be arranged in rows along each side of the catwalk, where they are readily accessible during flight. The quantity of fuel carried will, of course, depend upon the length of journey contemplated, but tankage will be provided for a maximum of 60,000 kg. (132,277 lb.) of heavy oil. It is estimated that this will suffice for the longest stages which the airship is likely to undertake, such as across the Atlantic. The maximum speed is expected to be in the neighbourhood of 135 km/h. (83.88 m.p.h.).

As in the *Graf Zeppelin*, the control car will project from the bottom of the main hull forward. In the nose of the control car will be the commander's office, and the actual flying controls with their instruments, etc. Behind them will be the navigator's compartment, and above the control car will be the wireless cabin.

One respect in which the L.Z.129 will differ from previous Zeppelin airships is in the arrangement of the passengers' quarters. In the *Graf Zeppelin* there is one large



GERMANY'S NEW AIRSHIP: The L.Z.129 in skeleton.

sitting-room connecting with the control cabin, two smaller rooms, and sleeping cabins with a total of twenty-four berths. In the L.Z.129 there will be two large groups of sitting-rooms with promenades, and twenty-five sleeping cabins with a total of fifty bunks. The extra space provided will be greatly appreciated by passengers during flights lasting several days, and what will further add to their comfort is the provision of a special smoking-room, well insulated from the ballonets and interior of the hull. The floor space in the new airship has been greatly increased, being 400 sq. m. (4,306 sq. ft.), as compared with 100 sq. m. (1,076 sq. ft.) in the *Graf Zeppelin*.

The various rooms and cabins will be arranged on two decks, one above the other. On the upper deck will be on one side the large dining-room, and on the other a lounge and reading-room, with long promenades provided with large windows to give the passengers a good view of the scenery below. The lower deck will be slightly smaller, and will accommodate the smoking-room, the airship's office, and a shower-bath. Between these two decks will be the sleeping cabins. Here also will be the kitchen and the crew's mess.

All rooms and cabins will have special air conditioning provided and also heating by warm air. Electric lighting and cooking will be used, the electric "power station" being placed in a space amidships, carefully separated and insulated from the main hull. There will be two electric generators, each driven by one Diesel engine.

# THE FOUR WINDS

ITEMS OF INTEREST FROM ALL QUARTERS

## Air Liner's Missing Gold Found

It will be remembered that last July £4,000 worth of gold was lost from an Imperial Airways machine while at anchor on the Nile. Three men arrested in connection with the theft have confessed, and a small part of the gold has been recovered.

## Gustave Lemoine Killed

M. Gustave Lemoine, one of France's best-known test pilots, was killed near Amiens on October 3, when a new bomber he was testing got out of control and crashed. He jumped with his parachute, but it failed to open. Lemoine had established several world's records.

## Twenty-five Years Ago

From "Flight" of October 9, 1909.

"Saturday last was indeed a red-letter day for Orville Wright, that day witnessing two achievements of which he may justly be proud. Not only did he carry the Crown Prince of Germany as a passenger on his flyer, but he also demonstrated that the Wright machine was capable of ascending to amazing heights. . . . He flew round and round in an ever-ascending spiral until it was estimated that he was at a height of 1,500 ft., passengers on the Havel steamers over three miles away being able to see him gliding through space."



**FRANCO-ITALIAN:** Rome gave the squadron of French military airmen visiting Italy an enthusiastic reception. Our illustration shows the French pilots (in foreground) being received by Italian officials and (in centre, hat in hand) Comte de Chambrun, French Ambassador in Rome.

## "Smithy" to Fly Pacific?

It is reported from Sydney that Sir Charles Kingsford-Smith—who is now definitely out of the England-Australia Race—intends to fly the Pacific with Capt. P. G. Taylor as co-pilot and navigator in the *Lady Southern Cross*—the

Lockheed "Altair" he had entered for the race. He hopes to leave Sydney on or about October 20, and fly *via* Suva to Honolulu, thence to America, where he will sell the machine.

## Ulm's Offer

Apropos Sir Charles Kingsford-Smith and the England-Australia Air Race, it was reported last week that C. T. Ulm—who was once a partner with Sir Charles—offered to bring an American machine to England for Sir Charles to race in.

## R.101 Memorial Service

Three survivors of the airship R.101, which crashed at Beauvais on October 5, 1930—Mr. J. H. Binks, Mr. A. B. Bell, and Mr. A. J. Cook—and a large number of people attended a memorial service held at Cardington Church on October 7. A procession, headed by choir boys, afterwards went to the cemetery, where the victims are buried, and a two-minutes' silence was observed.

## French Squadron in Rome

On October 2 a French military squadron of eighteen pursuit aeroplanes, under the command of Com.-Maj. René Weiser, paid a flying visit to Rome. After performing a series of aerobatics over Rome, the squadron landed on Centocelle Sud aerodrome, which was gaily decorated in their honour. On landing they were accorded an enthusiastic welcome, being received by the Under-Secretaries respectively for War, Navy, and Air, the complete garrison of the Rome area, a number of Italian flying aces, and by a personal representative of Signor Mussolini.



**THE CUBIST:** An unusual aerial view of a U.S. Army pilot flying above Selfridge Field in a Boeing P-26 pursuit 'plane.





**TO NEWMARKET BY AIR:** As reported last week, the stewards of the Jockey Club have laid out a landing ground on Newmarket Heath for the convenience of racegoers. Here is the first aeroplane to make use of this new landing ground—a "Puss Moth" belonging to Lord Willoughby de Broke, who flew to the races on October 2.

### Prince's Aeroplane for Sale

According to reports the Prince of Wales intends to dispose of one or more of his fleet of aeroplanes this winter. No doubt next year he will replace with new machines of the latest type.

### A France-Madagascar Flight

M. Moensch intends shortly to attack the record for a flight from France to Madagascar. He will fly a D.H. "Leopard Moth," which is now at Hatfield, having long-range tanks fitted.

### Salvage of Aircraft

The Aberdeen Sheriff Court has dismissed a claim by the master and crew of the trawler *Lord Talbot* for salvage services rendered to the American amphibian *Flying Family*, when it made a forced landing at Cape Don, Greenland, in 1932. It will be remembered that the machine was flown by Col. G. R. Hutchinson, with his wife, two daughters, and a crew of four, across the Atlantic via the Arctic route. The claim was dismissed on the grounds that, at common law, a British ship rescuing at sea an aircraft, or its passengers, crew, or cargo (British or foreign), within or without British jurisdiction, was not entitled to salvage for services rendered, as such aircraft was not within the category of ships, vessels or boats. By provisions of the Air Navigation Act, 1920, it was, however, entitled to benefit, provided that the aircraft had been wrecked within the limits of his Majesty's

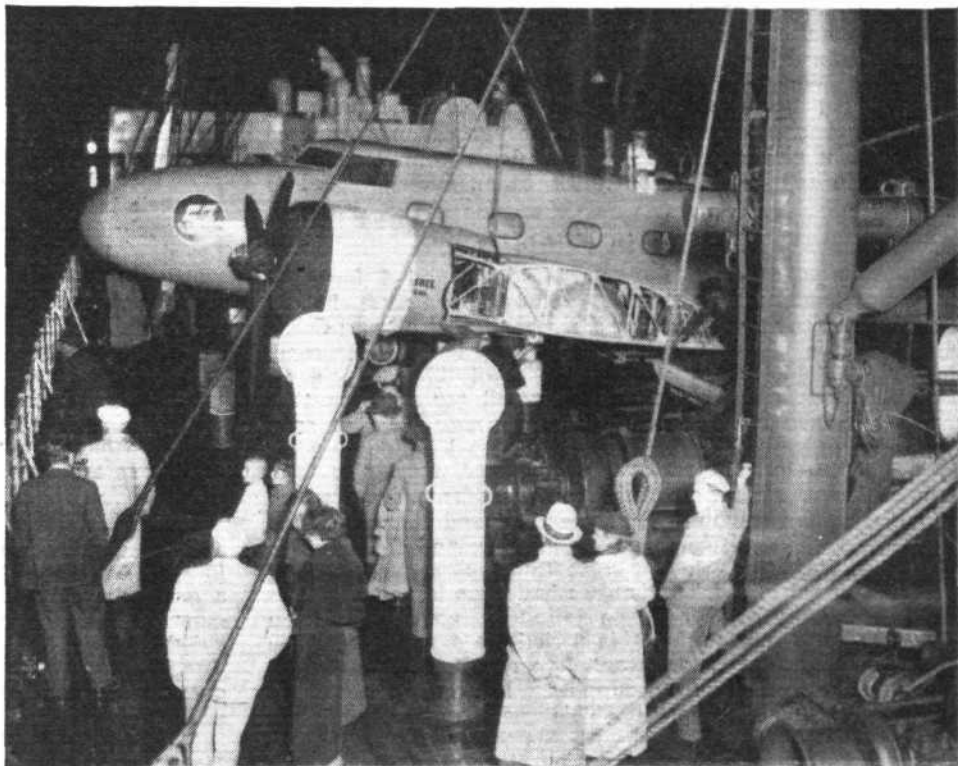
jurisdiction. In the case of the *Flying Family*, the location of alleged salvage services was outside his Majesty's jurisdiction.

### Smuggling by Air

Canadian police have arrested two brothers from Rochester, New York, who have, it is alleged, been smuggling cigarettes into Canada by air. One brother would fly across the border into Canada, and then land because of "engine trouble." The other brother would drive up in a car and offer assistance (and incidentally take over the cigarettes), and the "stranded" airman would proceed to the nearest aerodrome.

### High Speed Parachuting

Mr. Ivor Price, parachutist in Sir Alan Cobham's Air Display, recently accomplished eight parachute descents within 15 minutes 50 seconds. Mr. Price made his descents, using the Russell Lobe parachute, from 800ft. (delaying on an average 350ft.), and used the same machine, a "Tiger Moth" piloted by Flt. Lt. Tyson. Each flight, therefore, averaged about half a minute's duration, with an interval between flights of about two minutes!



**A FIRST-CLASS PASSENGER:** An England-Australia competitor arrives in England. The Boeing 247-D monoplane, *Comet*, which Clive Pangborn and Roscoe Turner will fly in the race, on board the liner *Westerland* at Southampton on October 7.

## Diary of Forthcoming Events

Club Secretaries and others are invited to send particulars of important fixtures for inclusion in this list.

- Oct. 12. Banquet to MacRobertson Race Pilots, Grosvenor House, Park Lane, 8 p.m.
- Oct. 18. "The Education of Aeronautical Engineers" R.Ae.S. Lecture by Prof. A. J. S. Pippard.
- Oct. 20. England-Australia Race for MacRobertson Prize. Start at Mildenhall.
- Oct. 20. R.A.F. v. Cambridge University Football Match at Cambridge.
- Oct. 25. "The Compressed Air Tunnel." R.Ae.S. Lecture by Mr. E. F. Relf, R.Ae.S.
- Oct. 27. R.A.F. v. Corinthians Football Match at Ipswich.

- Nov. 8. "Speeds of Commercial Aircraft." R.Ae.S. Lecture by M. Louis Breguet.
- Nov. 15. "Flying Boats," R.Ae.S. Lecture by Mr. I. I. Sikorsky.
- Nov. 16-Dec. 2. 14th International Aviation Exhibition, Grand Palais des Champs-Élysées, Paris.
- Nov. 21. "The Royal Air Force Training Year At Home": R.U.S.I. Lecture by Wing Com. L. L. MacLean, R.A.F.
- Nov. 22. "Air Turbulence near the Ground." R.Ae.S. Lecture by Prof. Dr. Wilhelm Schmidt.

# SOMETHING ATTEMPTED, SOMETHING DONE

## *Sir Alan Cobham's Story of His Refuelling Flight to Malta*

WE have already briefly recorded Sir Alan Cobham's attempt to fly non-stop, with refuelling in the air, from England to India, when a broken throttle control cut short the flight after a successful journey to Malta. Below we give extracts from Sir Alan's own "log" of the flight, as far as it went, which we think will be of interest.

The start at 5.30 on September 22, from Portsmouth, and the early stages of the flight as described by Sir Alan must, owing to pressure on our space, be condensed to the following outstanding points: The initial refuelling was quickly and successfully accomplished heading towards Selsey Bill; 80 gallons of petrol were added to the 100 gallons already in the tanks. Flew low over the Channel and encountered low cloud on reaching the French coast, thereafter climbing to fly above them.

At 7.45, over Lorient, more clouds called for an increase in altitude, and they now flew at 2,500ft., climbing still higher after this until, when nearing Lyons about 9.00, they were at 8,000ft. By 9.50 they were flying in cloudless skies, heading for the Mediterranean and enjoying breakfast; at 10.30, came down low over Marignane Airport, Marseilles, and headed for Sardinia; sighted Sardinia at 12 noon, and had lunch (of chicken, *not* sardines!); at 13.30 left Sardinia for Sicily; Sicily sighted, dead on course, at 14.20, and left its shores for Malta at 15.45. Here we will let Sir Alan continue the story:—

"16.15. We were flying over the island, and had already been spotted by Johnson with the tanker which took off before we reached Halfar drome. We turned and formed on it while it gained height. We had flown from Portsmouth to Malta in 10½ hours, 1,400 miles, at an average speed of 130 m.p.h.

### *Taking in Supplies*

"Johnson climbed on a westerly course and I formed on the starboard side of the W. 10; at about 2,000ft. he did a gentle turn to the North, and I signalled that all was O.K., whereupon we picked up the trailer, pulled down our rope, and very quickly were passing supplies of XXL. Incidentally, the 'Lynx' only used 3 pints of oil per hour, so that it was only necessary to pass some four cans, so that soon after starting we had a pipe down and started taking on some National Benzole mixture. We experienced a peculiar form of bump—not violent or jerky, but sudden uplift, which brought the two machines close together, and then separated them again. But although we were rising and falling some 20ft. while forming, we were able to carry on our refuelling and took on petrol quicker than we had done hitherto.

"After about six or seven minutes' contact Johnson started to turn, and during this period we experienced some very bad bumps. Helmore wanted to examine the tank and make an investigation of our supplies. I suggested we should break contact for the moment. This was done, and I climbed and flew alongside quite level with the tanker while Helmore took a careful reading of the tanks. He was of the opinion that we had sufficient supplies on board to get to Alexandria. But we still wanted our message bag down, and I suggested that we should top-up the tanks and just have one more contact.

"We passed the usual signals to the W.10 such as a shake of the fist, meaning 'Contact again,' and other signs just as simple meaning 'Lower' and 'Steady,' and such like. In a couple of minutes we had again made contact and were taking petrol on board. During our refuelling operation we had made a detour so that I should not have the sun in my eyes. The machine had been flying in an easterly direction while I had formed on its starboard side.

"We were about five miles out to sea from the extreme eastern end of the island, at about 2,500ft., when, in order to keep formation, I had to give a burst of full throttle. While doing that operation I suddenly felt the control go easy. In order to keep my formation it was necessary to throttle back. When I wanted to do so nothing happened. I discovered in an instant that my throttle control had, somewhere in the transmission, become disconnected.

"The situation meant instant breaking away, so I grabbed the red handkerchief (we had a series of speed signals by

coloured handkerchiefs) which I waved and the engineer of the refuelling tanker observed. I frantically waved the red handkerchief, the signal for the breakaway, and then dived forward and away. Helmore immediately knew that something had happened and now had to let go. The guiding rope went through his hands so fast that it burnt his gloves.

"I banked round and made for the island. By this time I discovered that my throttle was not going to remain open but was sliding back. I was gradually losing revs. The question was what to do. Ahead of me was the mouth of the Marsa Sirocco Bay, the scene of former disaster as far as I was concerned in the days when the bay, now peaceful, was a turmoil of gigantic breakers which did their best to break up the 'Singapore' flying boat, but were not successful. Slightly on my left was Halfar aerodrome, high up on the cliffs, 200ft. to 300ft. above sea level.

The point was: Could I reach Halfar aerodrome? As we neared the island I began to nurse my glide. I already realised I dared not lower the undercarriage, as the drag would destroy all hope of reaching the aerodrome, because only by the very flattest glide and by good fortune of the revs not falling off too fast, would we make it.

"Helmore did his best to climb underneath the instrument board to see if we could do anything with the throttle, but quickly discovered it was useless. He then stood up for a second through the refuelling porthole to survey the situation, to be instantly pulled down by me because he would be destroying our glide through the drift of his body in the atmosphere.

"Gradually we neared the shore, and we then discovered that we could clear the cliffs. The next thing was could we glide for half a mile over the numerous little fields surrounded by their brick walls, and make Halfar aerodrome? I glided extremely fast because we had a 500 lb. overload of petrol on board. I suppose our all-out weight was some 4,500 lb., which is 500 lb. above the maximum permissible for a 'Courier' with brakes, and for some peculiar reason 1,000 lb. overload for my 'Courier,' which has no wheel brake. At this point it is worthy of note that on the side of a 'Courier' the tare weight is stated as some 2,000 lb. The maximum permissible without wheel brakes is 3,300. (And then, underneath that, my 'Courier' is the only one in the world to have written on it: 'Maximum permissible for refuelling in the air 5,050 lb.').

### *A Lost Split-pin*

"We quickly passed over these fields, getting lower and lower. At last it became evident that we should only have a few inches to spare over the last wall. I was told by the personnel at Halfar that had the undercarriage been down we should not have cleared the last wall into the aerodrome. The moment we were clear I switched the engine off, flattened out, and made a very good landing. Unfortunately, the propeller did not stop horizontal and got bent in the process.

"We came to rest very comfortably, and on investigation found there was no damage to the machine whatsoever other than a slightly bent cowling that the machine had tipped forward, the last seven yards having run on the aerodrome with the wheels in the retracted position, because on the 'Courier' they protrude some 8in. and are supported for such occasions. The Air Force very quickly placed a guard over the machine, and the Chief Engineer came down and took charge of affairs. A tripod was soon on the scene, and the machine was lifted to sufficient height for us to lower the undercarriage, which operated perfectly. Soon we discovered that the damage to the machine, except for the propeller, was superficial, and then, on the instructions of the Chief Technical Officer, who came up from Calafrena, the cowling was removed on the port side of the 'Courier.' To our dismay, it was discovered that the throttle control connection was hanging apart. The junction pin that connected this particular part of the throttle transmission had come adrift, and the pin was discovered in the tray of the cowling. Although we searched very carefully, we could not find the split-pin which should have held the junction pin in position. The whole matter is being very carefully investigated.

"However, we demonstrated both at Portsmouth and Malta the feasibility and possibility of refuelling in the air."



# PRIVATE FLYING

A SECTION FOR OWNER-PILOTS  
AND CLUB MEMBERS

MY notes last week were dictated partly by the fact that yet another very fine flight had been made on a light aircraft from Australia to this country—which, in fact, constitutes an unofficial record—and also for the reason that I have for some time contemplated flying to the Commonwealth and also to the Far East. It may be interesting briefly to review some of the preparations which I found it necessary to make. These preparations fall generally under four heads: choice of route and provision of maps; the obtaining of sanctions, *i.e.*, permits and visas; overhaul of machine; and arrangements for fuel *en route*.

## Planning a Route to Australia

WITH regard to choice of route, there are several alternatives on the European section, but little variation through Asia. One's plans are naturally influenced to some extent by the permits required by various countries, and it is sometimes necessary to take a longer route than one would wish owing to the difficulty met with in this direction. The shortest route through Europe would take one through Turkey, but, unfortunately, the authorities of this country do not readily grant a permit to fly across their territory, and for this reason I chose to arrange my journey by a more southerly route.

The course decided upon involved crossing the Mediterranean, and the recommended route was *via* Italy and Tunis, and along the north coast of Africa to Cairo. As this is over a thousand miles longer than the more northern section, I decided that I would go *via* Rome, Brindisi, and Athens, making the crossing direct from the latter city to Mersa Matruh, which is but 270 miles from Cairo. This saves a considerable mileage over the Tunis route, but means a longer overseas flight, the distance being over four hundred miles at this point. From Cairo onwards one follows generally the route taken by Imperial Airways as far as Singapore, although if it is desired to complete the journey in the shortest possible time certain short cuts may be made.

One divergence from the Imperial route is made of necessity, and that is in the section from Basra to Gwadar. Between these points Imperial Airways machines take the route on the south side of the Persian Gulf, along which it is impossible for the private pilot to obtain permission to fly. Until a year or two ago the Imperial route, of course, followed the northern shores of the Gulf, and the reason for the change is a long story in itself.

Briefly, the position is that this sector has been one of the most difficult and uncertain that Imperial Airways have had to deal with. When their agreement with the Persian Government came to an end, the authorities there wished them to fly through what is known as the Persian "corridor," and would have been willing to extend the privilege on this understanding. It was found that this route presented conditions of an impracticable nature, and Imperial Airways decided to obtain permission to survey the southern side of the Gulf with a view to establishing a route if flying conditions proved more satisfactory. This

involved a long and delicate series of negotiations with the various small potentates who ruled that section. That these were successfully carried out and a permanent airway established reflects a great deal of credit on those responsible for the arrangements. It is in order that nothing shall occur to prevent the smooth working of this route that it has been decided to confine it to Imperial Airways machines.

The private pilot has perforce therefore to follow the Persian side, and picks up the Imperial Route again at Gwadar *via* Bushire, Bandar Abbas, and Jask. From Gwadar it is but three hundred miles to Karachi, which was, for some years, the eastern limit of our Imperial Air Line. Unless we wish to linger on the way we shall make straight across India, calling only at Jodhpur and Allahabad before reaching Calcutta. Of course, if one were making a more leisurely trip one would certainly not take this short cut, and, by so doing, miss calling at Delhi.

In planning my course, however, the main object was to get there as soon as possible. Proceeding from Calcutta to

Singapore, one passes down the eastern coast of Burmah and Siam, passing Akyab, Rangoon, and Victoria Point. From the latter point one may hope, if favoured by the weather, to make Singapore in one hop. From Singapore through the Dutch East Indies to Koepang, which is the jumping-off point for the long sea crossing to Darwin, flying conditions should be more favourable, as the Dutch air lines operate in this region with unfailing regularity on a well-organised route.

The sea passage across the Timor Sea has been successfully undertaken many times by light aircraft, and should cause no undue apprehension, although it is customary to describe it in rather a terrifying manner as a "shark-infested area." If this is the case, there is very good reason for making as sure as one possibly can before leaving Koepang that one's engine is functioning perfectly. As my reason for visiting the Commonwealth is primarily to act as a delegate at the Melbourne Centenary Celebrations, I propose to take a similar course to that laid down for the MacRobertson Race from Darwin to that city.

## Maps for the Journey

THE question of maps for a journey such as this, which, by the route described, means a distance of just over 13,000 miles, is no small problem. If one enlists the aid of the Aviation Department of the Automobile Association in this, as well as other necessary arrangements, the way is smoothed very considerably. Although the Department is not yet in a position to hire maps for the complete route, they can do so over a large section. For the remainder I was able to purchase through their good offices a second-hand series of maps which they had prepared for another flight. The fact that this had been used for a return journey to Australia, and was in a perfectly good condition, is a tribute to their method of mounting in strip form. For a long journey this method is undoubtedly

## NOTES

by

LORD SEMPILL

A.F.C., F.R.Ae.S.

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very convenient, as, arranged in this way, the maps take up a minimum of room. The services of the Aviation Department of the A.A. have been available for some years to aviators who were motoring members of the Association, without any extra fee, but they have recently issued an Air Touring Card for which a subscription of one guinea per annum is charged. This entitles the holder to a great many facilities given both by the Association itself and also the Royal Aero Club with which it is co-operating in this connection. This gives an opportunity to very many who have benefited by the assistance freely given by the A.A. in the past to support at very little cost the admirable work they are doing for the aviation world.

With regard to permits required on the Australian route there is no particular difficulty, but it is desirable to make application in good time, as things move in a leisurely way in the official channels of all countries. On the route mapped out, the only actual permits required are for Egypt, Persia, Siam, and the Dutch East Indies. Several visas, in addition, will, however, be necessary, including Greece, Egypt, Persia, and Siam, while Foreign Office visas will be required for Transjordan, Palestine, and Gwadar. There is not space to mention here the various modifications one found it desirable to make to the machine, but I hope to describe these in my notes of the near future.

# FROM THE CLUBS

## Events and Activity at the Clubs and Schools

### MIDLAND

Three new flying members have joined the Midland Club. Last week rain and high winds prevented flying on several days, but thirty-four hours were put in on club machines.

### CAMBRIDGE

High winds and rain made solo flying impossible on several days last week, but a number of pupils at Marshall's School took advantage of the weather to have instruction in rough conditions. Charter flights were made to Hatfield, Bournemouth and Thirsk.

### LEICESTERSHIRE

The 81 hours of flying time put in by the Leicestershire Aero Club last month included thirty-seven cross-country flights and one first solo by Mr. W. P. Thompson. Two new members have joined, and one has rejoined.

At the Midland Aero Club "At Home" the Leicestershire team won the relay race.

### READING

Flying time at the Phillips and Powis School of Flying amounted to 43 hours odd for the last week in September, the somewhat doubtful weather causing the average to drop slightly.

The Reading Club will be organising a landing competition for its members during the month—probably on the 28th.

### BRISTOL AND WESSEX

The Bristol and Wessex Aeroplane Club took delivery of their new C.30 autogiro on Thursday, October 4. The chief instructor, Flt Lt. R. W. M. Hall, has taken a special course of instruction at the Cierva School, and is now busy passing on his knowledge to the club members. On the Saturday following Flt Lt. Hall took the machine to Cardiff, and gave a demonstration and joy rides at the Cardiff Flying Meeting.

During the week Mrs. P. V. Wills completed the tests for her "A" licence.

### SOUTHERN

Only seventeen hours were flown by Southern Aero Club machines last week, owing to unfavourable weather. Mr. R. K. C. Norwood finished fourth in Hatfield-Cardiff race, and Mrs. H. M. Barnes has taken delivery of a "Hawk Major."

A very enjoyable evening was spent at a clubhouse supper on October 6, when Mr. Pashley, the instructor, entertained members and guests with anecdotes of pre-War flying. Dancing followed.

### HATFIELD

The flying time at the London Aeroplane Club last week was rather less than usual (57 hr. 25 min.), on account of the very high winds experienced. Two new members have joined the club.

The map-reading competition was held on Saturday, September 29, and, although the weather was quite good at the start, the later competitors experienced very bad conditions indeed.

There were nine competitors for this contest, and the winner, Mr. F. H. Matusch, received the cup presented by himself, after putting up a very good performance. Mr. Mark Young ran him a fine second, in spite of flying into a very bad storm on the homeward journey.

### HAMPSHIRE

So far the Hampshire Aeroplane Club has "knocked up" a total of 1,808 hr. 30 min. flying this year, of which 282 hr. 15 min. were flown during the month of September.

Ten new members joined the club last month; eight members made their first solos; and six passed the tests for their "A" licences.

Cross-country flights among others, were made to Ostend, Brussels and Paris, twenty-one hours of Continental flying being done by club machines. Dr. Jameson, incidentally, one of the month's soloists, went off after 3½ hours of instruction and without previous experience.

A new Gipsy "Moth" has been added to the fleet, and this machine is fitted with navigation lights and wing-tip flares.

### CINQUE PORTS

Lympne appears to have been the centre of a deep depression during the past week, for there was little but high winds, low cloud and rain. As a result flying hours dropped to thirty-seven. Mr. K. K. Brown, too, has been away on holiday, and Mr. Ken Waller away with a slight cold. The latter is making final arrangements for the Australia race, and getting to know the "Comet."

Mr. E. I. Woods was forced to abandon his proposed flight to Rhodesia owing to bad weather conditions, and the club has sold his "Hawk" (Cirrus III) to Mr. Ramsey, of Bekebourne.

The club is in process of drawing up plans for enlarged club rooms and workshop, to cope with the increased activity shown during the past year and in anticipation of continued improvement during 1935.

### BROOKLANDS

Flying hours at Brooklands last week amounted to 30 hr. 10 min. dual and 45 hr. 15 min. solo. Several new members have joined. During the week Mr. O'Connell made a return flight to Le Bourget.

Many people are taking advantage of the various ground instruction courses which form part of the Brooklands curriculum.

Mr. Arthur Woods, a member of the club, who is a film director at Elstree, brought down a party of film stars on Sunday. The party included Cicely Courtneidge, Pamela Hulbert (Jack Hulbert's daughter), Clifford Mollison, Mrs. Clifford Mollison, Mr. and Mrs. Gene Gerrard, Ivor MacLaren, Davy Burnaby, Renee Houston, Pat Ahearne, Joan Gardner, Betty Davis, Jimmy Godden. They were shown round the aerodrome, and several were given joy rides.

The Sales Department lived up to its reputation by selling three machines.

### HERTS AND ESSEX

Two hundred and forty-six hours have been flown by the Herts and Essex Club during September, and fifty-two were flown last week, with three first solos. One of these, L. B. R. Pyle, went off after 6½ hours dual on the Miles "Hawk." There were four new members.

The "Margaret Blackshaw" Challenge Cup Competition, held on September 30, was won by D. C. Mason, with E. L. Gay second and L. F. P. Walters third. In this competition maps were handed to competitors ten minutes before the take-off. Marked thereon were three pin-points; competitors flew



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to the first point, where the ground indication sign informed them which direction to take towards an alternative second point; from the second point competitors returned to the aerodrome, arriving at 2,000 feet and landing without further use of the engine or resorting to side-slip.

A very handsome silver challenge cup has been presented to the club by S. and R. Yager, the suggestion for the competition being blind flying.

**LANCASHIRE**

The quarterly landing competitions for the Rodman and Pemberton Trophies were flown off on Saturday, September 29. Weather conditions were very bad, with heavy rain and poor visibility, and the wind was so variable that after several attempts to get the poles and tapes into the correct position it was finally decided to dispense with them. A white mark was placed on the aerodrome, and, after shutting off at 1,000 feet immediately above it, competitors in both classes had to land and attempt to pull up on the mark without the use of engine or wheel brakes, approaching from whatever direction the shifting wind dictated.

Mr. Alan Goodfellow again won the senior competition with a total of 58 out of a possible 60 marks, beating Mr. Colin Wilson, the assistant instructor, by a narrow margin. Sir

Kenneth Crossley, who had gallantly flown over from his private aerodrome at Combermere to compete, was a good third.

In the junior section Mr. O'Donnel scored his first success with 48 marks out of 60. There was a close finish for the second and third places, the marks being as follows: Oddy 38, Stone 37½, Brothers 35.

Fifteen competitors took part in all, and the standard was high considering the weather conditions.

The club has now taken delivery of the latest direct-control type Autogiro, and several members have had their first experience in this type. It is expected that its special characteristics, and particularly its safety as compared with the ordinary aeroplane when flying in conditions of bad visibility, will lead to a considerable influx of new members.

The club has also purchased an additional Avro "Cadet," and is taking delivery this week. The fleet now consists of three "Cadets," one Autogiro, one Desoutter, and two Cirrus "Avians," one of which is permanently stationed at Barton.

It may fairly be claimed that the flying equipment is now the most complete of any club in England, and the marked increase in flying hours and in new "A" licences gained justifies the progressive policy of the committee.

**FROM HERE AND THERE****Irish Aviation Day**

Irish Aviation Day, which was to have been the largest air pageant ever organised in Ireland, has been abandoned for this year and will take place in 1935. It will be recalled that the display was to have taken place in the Phoenix Park, Dublin, on August 18, but was postponed owing to the newspaper strike. Now the strike has ended, but the organisers consider it too late in the year to hold a pageant on the scale they had contemplated.

**The Jockey Club Landing Ground**

For the convenience of members and others travelling to Newmarket races by air, the stewards of the Jockey Club have approved a private aerodrome on the Exercise Ground to the north-east of the Rowley Mile stands. It is licensed, but permission to land must be obtained from the Secretary of the Jockey Club at Newmarket.

Landing runs of 650 to 750 yards are available in all directions, though there are two marked ridges, and both chocks and picketing gear are available on request.

Incidentally, this landing ground, which has been laid out by Norman, Muntz and Dawbarn, is just outside the Mildenhall prohibited area.

**The Hull Club Magazine**

The October issue of the very excellent magazine produced by the Hull Aero Club is brimful of useful reading. In an article giving some impressions of airline travelling in the U.S.A., the writer gives interesting details of the accommodation and the navigation methods with beam wireless. Apparently airports in America are as crowded with passengers as railway stations are here—hardly surprising when air travel is cheaper than ground travel.

Mr. W. F. Dowsett (Pilcher Prize Lecturer in 1932) writes, too, on desirable features of design in commercial aircraft, and there are the usual club notes, humorous and otherwise.

**The London-Cardiff Air Race**

Flt. Lt. Duncanson, flying the veteran Hendy "Hobo," which now belongs to Lord Crichton-Stuart, won the annual Hatfield to Cardiff race last Saturday under weather conditions far from perfect, with poor visibility, a low ceiling, and a good deal of heavy rain. Mr. A. H. Cook (Comper "Swift") was second, and Mr. L. Lipton (D.H. "Moth") third.

There were fifteen starters, and three of them failed to get through to Cardiff. The owner of the "Hobo," incidentally, flew as navigator with Miss P. Naismith in an Aircraft Exchange and Mart B.2 Trainer, and they got through in spite of the fact that their combined "hourage" was considerably less than a hundred. Sir Charles Rose, flying his special "Hawk Major," undershot the aerodrome at Cardiff, luckily without personal damage.

**Wireless Gliding Instruction**

Airwork made experiments some long time ago in wireless communication for early solo instruction, but found that, for various reasons, the idea was not a successful one. In the Rhön district, however, German gliding students use Telefunken transmitters quite successfully.

The gliding pupil, of course, must necessarily be "solo" from the first, and such a system might be extremely useful. Meteorological information, too, might be transmitted to the mature students.

**The Instructional Tourists Return**

The six members of the Bombay Flying Club, who landed at Heston on June 26 after an instructional flight from Bombay, left Heston on their return journey on Saturday, September 29, at 11.20 a.m. The formation of three Gipsy "Moths" will travel in short stages of some 300 miles daily, via Berlin, Prague, Vienna, Buda Pesth, Sophia, Constantinople, Aleppo, Baghdad, Basra and Karachi. During their stay in England two of the pupils have obtained their "B" licences. It is hoped that this expedition will be the forerunner of yearly flights from Bombay to England during the monsoon season, when Bombay Flying Club has, in the past, suspended operations owing to the unserviceability of the aerodrome. Flt. Lt. Binley hopes to arrive in India in time to fly a machine for the Viceroy's Cup in November.

The latest news suggests that Mr. P. Stone and three of the Indian members are lost with two machines between Baghdad and Basra, which the others reached safely. Let us hope that it was only a temporary stop.

**The First Month at Newtownards**

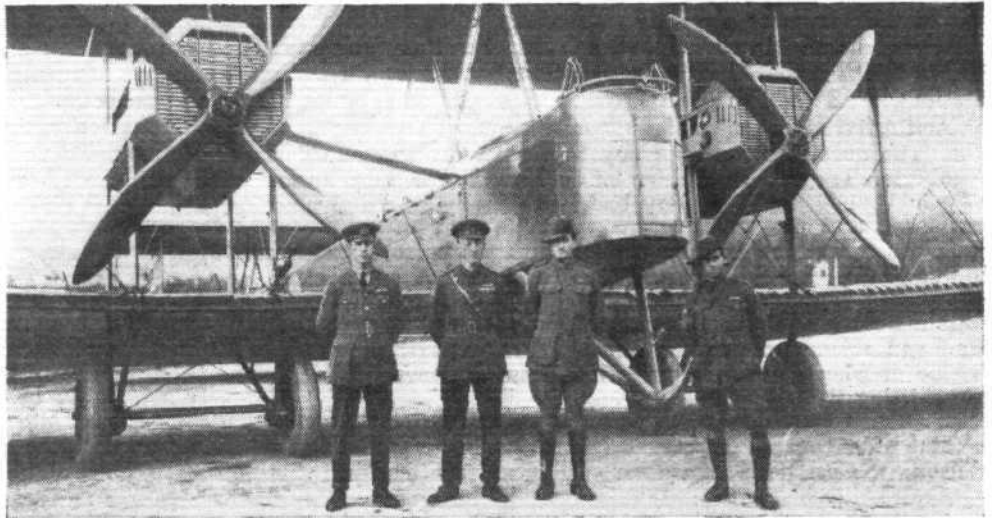
Eighty-nine flying hours is the imposing first month's total achieved by the single Avro "Cadet" at Newtownards, near Belfast. Twenty-eight pupils are under instruction, and two of these have already reached the solo stage.

It has been suggested locally that the flying rates at Newtownards, £3 10s. an hour dual and solo, are high in comparison with other schools distant from London. In defence of these rates it is pointed out that the employment of the heavier and more powerful Avro "Cadet," of which the first cost is about twice that of the usual civil training types, minimises the risk of loss of confidence due to small breakages when landing. Equally, an inexperienced pupil may fly it solo with safety on gusty days when lighter training types would be difficult to handle, avoiding the waste of time usually occasioned through pupils being weatherbound in moderately high winds. A third and even more conclusive argument is that at Heston this machine has been found to reduce, by nearly two hours, the amount of dual instruction required before a pupil goes solo. This is a statistical fact arrived at by averaging up the flying records of a strict succession of twenty-four pupils, good, bad and indifferent. Mathematicians may discover exactly how much or how little more costly training up to the solo stage can be.

# FLIGHTS BETWEEN ENGLAND AND AUSTRALIA

*In view of the fact that the journey between this country and Australia may be accomplished within the space of two or three days by competitors in the MacRobertson England-Australia Race, it may be of interest to examine and compare the efforts of various pilots of both sexes who have attempted to reduce the time taken for this 12,000 mile journey. In the fifteen years since the brothers Smith made the first successful flight to Australia, the time taken for the journey has been steadily reduced from four weeks to six and a half days. What is to be the pace set by the MacRobertson pilots?*

**THE PIONEERS:** Sir Keith Smith, Sir Ross Smith, Sergt. J. M. Bennett and Sergt. W. H. Shiers, who made the first flight from England to Australia, in 1919, on a Vickers "Vimy" (Rolls-Royce "Eagle VIII").



*England-Australia, 1919.*—Capt. G. C. Matthews and Sergt. Kay, on a Sopwith "Wallaby" (375 h.p. Rolls-Royce). Left Hounslow October 21, 1919. Crashed Island of Bali (East Indies), April 1920, when landing. Occupants uninjured.

*England-Australia, 1919.*—Lt. R. Douglas and Lt. J. S. L. Ross, on Alliance biplane (450 h.p. Napier "Lion"). Left Hounslow November 13. Crashed Surbiton, both killed.

*England-Australia, 1919.*—Capt. C. E. Howell and Corpl. G. H. Fraser, on Martinsyde A.I. biplane (275 h.p. Rolls-Royce "Falcon"). Left Hounslow December 4. Wrecked off Corfu December 10. Pilots and machine lost.

*\*England-Australia, 1919.*—Capt. Ross Smith and Lt. K. M. Smith, with Sergts. W. H. Shiers and J. M. Bennett, on a Vickers "Vimy" biplane (two 350 h.p. Rolls-Royce "Eagle VIII"). Left Hounslow November 12 (9.10 a.m. G.M.T.). Arrived Port Darwin December 10 (5 a.m. G.M.T.). Time 4 weeks 2 days. Distance 11,294 miles.

*England-Australia, 1919.*—Capt. G. H. Wilkins, Lt. D. R. Williams, Lt. G. H. Potts and Lt. V. Rendle, on a Blackburn "Kangaroo" biplane (two 275 h.p. Rolls-Royce "Falcon"). Left Hounslow November 21. Flight abandoned at Suda Bay owing to engine damage, December 8.

*\*England-Australia, 1920.*—Lt. H. Parer and Lt. J. McIntosh on a D.H.9 biplane. Left Hounslow January 9. Arrived Port Darwin August 2.

*\*England-Australia, 1926.*—Sir Alan Cobham and A. B. Elliott on a D.H.50J biplane seaplane (385 h.p. Armstrong Siddeley "Jaguar"). Left Rochester June 30. Arrived Port Darwin August 5. Time 5 weeks. At Basra Elliott was fatally shot by an Arab. Flight continued with Sergt. Ward, R.A.F. At Darwin wheels were fitted and machine flown to Melbourne and back.

*\*Australia-England, 1926.*—Sir Alan Cobham, Sergt. Ward and C. S. Capel. Return flight. Left Darwin September 4. Arrived Thames, Westminster, October 1. Time 3 weeks 6 days. Total 28,000 miles in 78 days.

*\*England-Australia, 1927-28.*—Capt. W. N. Lancaster and Mrs. Keith Miller, on an Avro "Avian" (30-80 h.p. "Cirrus"). Left Croydon October 14. Crashed Muntok, D. East Indies, January 10, 1928. Resumed flight March 12, 1928. Arrived Port Darwin March 19, 1928.

*\*England-Australia (solo), 1928.*—Sqd. Ldr. Bert Hinkler on an Avro "Avian" (30-80 h.p. "Cirrus"). Left Croydon February 7 (6.48 a.m.). Arrived Port Darwin February 22 (6 a.m.). Time 15½ days. Distance 11,000 miles. Record.

*Australia-England, 1928.*—Capt. F. Hurley, F/O. S. J. Moir and F/O. Owen, on a Ryan monoplane. Left Sydney October 30. Crashed Athens November 26, machine damaged and two injured. Flight abandoned.

*\*England-Australia, 1929.*—Flt. Lt. S. J. Moir and P/O. H. C. Owen on a Vickers "Vellore" (460 h.p. Armstrong-Siddeley "Jaguar"). Left Brooklands March 18. Arrived Cape Don Lighthouse, N. Australia, May 26.

*England-New Zealand, 1929.*—F. Mase on a Simmonds "Spartan" biplane ("Cirrus III"). Left Lympne April 24. Crashed at Roanne (Loire). Flight abandoned.

*\*Australia-England, 1929.*—Sqd. Ldr. C. E. Kingsford-Smith, C. T. P. Ulm, T. McWilliams and H. A. Litchfield, on a Fokker monoplane Southern Cross (three Wright "Whirlwind"). Left

\*Denotes flights completed.

Sydney June 25. Arrived Croydon July 10. 12,000 miles in 12 days 14 hr. 18 min.. (Ex. Derby.) Record.

*\*England-Australia (solo), 1929-30.*—F. C. Chichester on a D.H. "Moth" ("Gipsy"). Left Croydon December 20. Arrived Port Darwin January 25. Time 5 weeks.

*\*England-Australia, 1930.*—F/O. H. L. Piper and F/O. C. Kay on a Desoutter monoplane ("Cirrus Hermes"). Left Croydon February 9. Arrived Port Darwin March 23. Time 7 weeks.

*Australia-England, 1930.*—D. Smith and Lt. Shiers on a Ryan monoplane. Left Sydney March 24. Crashed at Bangkok, May. Flight abandoned.

*England-Australia (solo), 1930.*—C. H. Parkerson on a D.H. "Moth." Left Lympne March 23. Crashed Arquel. Flight abandoned.

*\*England-Australia (solo), 1930.*—Miss Amy Johnson on a D.H. "Moth" ("Gipsy"). Left Croydon May 5. Arrived Port Darwin May 24. 9,900 miles in 19½ days.

*England-Australia, 1930.*—E. L. Hook and J. Matthews on a D.H. "Moth" ("Gipsy"). Left Lympne June 20. Crashed near Tomas, Burma, July 3. Hook died, Matthews rescued.

*Australia-England (solo), 1930.*—A. P. Cunningham on a Genairco biplane ("Cirrus Hermes"). Left Sydney July 31. Crashed at Ramro Island, but eventually reached Calcutta on October 16. Flight abandoned.

*\*England-Australia (solo) 1930.*—Capt. F. R. Matthews on a D.H. "Puss Moth" ("Gipsy III"). Left Croydon September 16. Arrived Port Darwin October 18. Time 4 weeks 4 days.

*England-Australia, 1930.*—Maj. C. E. M. Pickthorne and F/O. C. J. Chabot on a D.H. "Puss Moth" ("Gipsy III"). Left Croydon October 6. Reached Karachi October 13. Flight abandoned.

*\*England-Australia (solo), 1930.*—Flt. Lt. C. W. Hill on a D.H. "Moth" ("Gipsy"). Left Lympne October 5. Crashed near Atamboea October 17. Resumed flight December 9, reached Port Darwin December 10. Time 7 weeks 5 days.

*\*England-Australia (solo), 1930.*—Wing Com. C. E. Kingsford-Smith on an Avro "Avian Sports" ("Gipsy II"), Southern Cross Junior. Left Heston October 9. Arrived Port Darwin October 19. 10,000 miles in 9 days 21 hr. 40 min.

*\*England-Australia (solo), 1930.*—Oscar Garden on a D.H. "Moth" ("Gipsy"), Kia Ora. Left Lympne October 17. Arrived Wyndham November 4. Time 18 days.

*England-Australia (solo), 1931.*—G. P. Fairbairn on a Spartan "Arrow" ("Gipsy II"). Left Hanworth February 19. Reached Nice February 20. Flight abandoned.

*\*England-Australia (solo), 1931.*—C. W. A. Scott on a D.H. "Moth" ("Gipsy II"). Left Lympne April 1. Arrived Port Darwin April 10. 10,500 miles in 9 days 4 hr. 11 min. Record.

*\*Australia-England (solo), 1931.*—C. W. A. Scott on a D.H. "Moth" ("Gipsy II"). Left Wyndham May 26. Arrived Lympne June 5. Time 10 days 23 hr. Record.

*England-Australia, 1931.*—H. F. Broadbent on a Blackburn "Bluebird" ("Gipsy II"). Left Hanworth March 29. Reached Constantinople April 1. No further news.

*England-Australia, 1931.*—Capt. N. Stack and J. R. Chaplin on a Vicker's "Vivid" (550 h.p. Napier "Lion"). Left Lympne May 2. Flight abandoned at Constantinople.



*Australia-England (via Japan)*, (solo), 1931.—F. C. Chichester on a D.H. "Moth" seaplane. Left Sydney July 3. Crashed Katsura, Japan, July 17. Pilot injured.

\**Australia-England* (solo), 1931.—J. A. Mollison on a D.H. "Moth" ("Gipsy"). Left Sydney July 25. Wyndham July 29. Arrived Pevensey Beach August 6. Time, 8 days, 19 hr. 25 min. Record.

*Australia-England* (solo), 1931.—Air Com. C. E. Kingsford-Smith on an Avro "Avian" ("Gipsy II"), Miss Southern Cross. Left Melbourne September 21, Wyndham September 24. Delayed by illness at Milas, Smyrna. Arrived Athens October 7. Time, 13 days.

*England-Australia*, 1931.—Leslie and Kenneth Hamilton on a D.H. "Puss Moth" ("Gipsy"). Left Lympne October 27. Forced landing near Vienna. Flight abandoned.

\**England-Australia* (solo), 1931.—C. A. Butler on a Comper "Swift" (75 h.p. Pobjoy "R"). Left Lympne October 31. Arrived Port Darwin November 8. Time, 9 days, 2 hr. 29 min. Record.

\**Australia-England* (Christmas Air Mail), 1931.—Air Com. C. E. Kingsford-Smith, G. V. Allen, and W. H. Hewitt, on an Avro Ten, *Southern Star* (Armstrong Siddeley "Lynx"). Left Sydney November 30, Darwin December 3. Arrived Croydon December 16. Time, 13 days.

\**England-Australia* (Christmas Air Mail Return), 1932.—As above. Left Hamble January 7. Arrived Port Darwin January 19. Time, 12½ days.

*England-Australia*, 1932.—Leslie Hamilton and R. K. Coupland on a D.H. "Puss Moth" ("Gipsy III"). Left Lympne February 18. Crashed Apulia February 19. Flight abandoned.

*England-Australia*, 1932.—Lady J. Chaytor and R. T. Richards on a D.H. "Moth" ("Gipsy"). Left Lympne March 5. Flight subsequently abandoned.

\**England-Australia* (solo), 1932.—C. W. A. Scott on a D.H. "Moth" ("Gipsy"). Left Lympne April 19. Arrived Port Darwin April 28. Time, 8 days, 20 hr. 47 min. Record.

\**England-Australia* (solo), 1932.—Richard Allen on a D.H. "Moth" ("Gipsy I"). Left Heston August 3. Arrived Wyndham September 19. Time, 6 weeks 5 days.

\**England-Australia* (solo), 1932.—Lt. Com. G. A. Hill on a Blackburn "Bluebird" ("Hermes II"). Left Croydon August 8. Arrived Wyndham September 1. Time, 3 weeks 3 days.

\**England-Australia* (solo), 1932.—J. R. Hibbert on a D.H. "Moth" ("Gipsy"). Left Heston October 12. Arrived Port Darwin December 6. Time, 7 weeks 6 days.

*England-Australia* (solo), 1933.—Sqd. Ldr. Bert Hinkler on a D.H. "Puss Moth" ("Gipsy Major"). Left Feltham January 7. Lost in Alps.

*England-Australia* (solo), 1933.—Dr. L. Robbiano on a Breda 33 monoplane ("Gipsy III"). Left Lympne April 8. Lost after leaving Calcutta, April 14.

*England-New Zealand* (solo), 1933.—Miss Jean Batten on a D.H. "Moth" ("Gipsy"). Left Lympne April 9. Crashed 3 miles from Karachi. Flight abandoned.

\**Australia-England* (solo), 1933.—Mrs. H. Bonney on a D.H. "Moth" ("Gipsy I"). Left Brisbane April 10. Crashed off Siam April 20. Resumed flight from Calcutta May 23. Arrived Croydon June 21.

\**England-Australia*, 1933.—Survey Flight. Maj. G. Brackley and others on Imperial Airways Armstrong-Whitworth AW14 *Astraea*. Left Croydon May 29. Arrived Port Darwin June 20.

\**Australia-England*, 1933.—C. T. Ulm, P. G. Taylor, and G. L. Allan on an Avro Ten (3 Wright J.6) *Faith in Australia*. Left Sydney June 21, Derby June 23. Arrived Heston July 10. Time, 17 days.

*Australia-England* (solo), 1933.—J. Woods on a D.H. "Moth" ("Gipsy"), *Spirit of Western Australia*. Left Broome, W.A., July 7. Reached Calcutta. No further reports on progress.

\**England-Australia* (solo), 1933.—Sir C. E. Kingsford-Smith on a Percival "Gull" ("Gipsy Major"). Left Lympne October 4. Arrived Wyndham October 11. Time, 7 days, 4 hr. 44 min. Record.

\**England-Australia-England*, 1933.—Capt. W. P. Crawford-Greene, M.P., Lord Apsley, P. W. Lynch Blossie (pilot), and mechanic in a Spartan "Cruiser" (3 "Gipsy Majors"). Left Lympne October 10. Arrived Wyndham October 27. (Time, 17 days.) Return: Left Australia November 21. Arrived near Clacton December 26. Longest charter flight: 32,000 miles in 7 weeks.

\**England-Australia*, 1933.—C. T. P. Ulm, G. Allen, and P. Taylor on an Avro Ten, *Faith in Australia*. Left Harmondsworth October 12. Arrived Derby October 19. Time, 6 days 17 hr. 45 min. Record.

\**(Australia-England. Return of the Astraea)*, 1933.—Australia, July 10—Croydon, July 24.

*England-Australia* (solo), 1933.—H. Shaw on a Monospar. Left Croydon October 23. Machine damaged at Shaibak. Flight abandoned.

\**England-Australia*, 1934.—B. Rubin and K. Waller on a D.H. "Leopard Moth" ("Gipsy Major"). Left Lympne March 22. Arrived Port Darwin April 6. Time, 15 days.

\**Australia-England*, 1934.—B. Rubin and K. Waller, return flight. Left Port Darwin April 23. Arrived Lympne May 1. Time, 8 days 12 hr.

*England-Australia* (solo), 1934.—H. L. Brooke on a D.H. "Puss Moth" ("Gipsy III"), *Heart's Content*. Left Lympne March 28. Crashed at Genholac, Cevennes. Flight abandoned.

\**England-Australia* (solo), 1934.—Miss Jean Batten on a D.H. "Moth" ("Gipsy II"). Left Lympne May 8. Arrived Port Darwin May 28. Time, 14 days 23 hr. 25 min. Third attempt.

## CHELSEA COLLEGE

THE College of Aeronautical Engineering, of which Viscount Wakefield is the president, was established in August, 1931, to provide practical and theoretical training for young men entering civil aviation. It has fully equipped engineering works at Chelsea, Fulham and Brooklands, and a residential house for students who do not live within reach of London. Students are only accepted, in the first instance, on a probationary term of three months. During this time their ability and application to the work is closely watched, and at the end of the term a report is forwarded to the parents with frank advice as to the student's suitability for the industry. Assuming that the student is up to standard he remains at Chelsea, where he is trained in the construction, repair and maintenance of all types of aero engines. In the aero engine shop, where he spends almost the whole of the first year, there are fifty-six engines, comprising twenty different types including Gipsy, Cirrus-Hermes, Rolls-Royce, Napier-Lion, Genet, Mongoose, Jaguar, Jupiter, Mercury, Pobjoy, etc., etc. This section of the course is accompanied by training in the welding, fitting, electrical, machine, foundry and woodwork shops and drawing office.

A fully equipped engine test-house, incorporating a Heenan and Froude hydraulic dynamometer, flowmeters, etc., enables the student to obtain a thorough insight into this class of work. A metallurgical laboratory is incorporated for sulphur-printing and macro-etching, and all students are given a course of testing of metals and timber, such as tensile, brinell, impact, etc., etc.

The second year's training at Brooklands includes the construction of aircraft, rigging, empennage and wings, fuselages, sheet metal working, cover sewing, doping and patching, instruments, parachutes, wireless, maintenance of aircraft and engines, engine installation, etc., etc. Having qualified in these two sections, the student then passes for final training under commercial conditions to one of the numerous aeronautical firms co-operating with the college in the training of personnel.

On the theoretical side, the college trains for the associate fellowship and associate membership examinations of the Royal Aeronautical Society, together with the necessary technical theory which accompanies a student's shop training to enable him to cover the ground necessary for the Air Ministry ground engineer's licences. Towards the end of his course, a student is instructed in the commercial subjects which may prove useful to him subsequently, such as general commercial practice, sales and service, aviation insurance, traffic management, aerodrome development and management, etc., etc.

All students before passing out from Chelsea and Brooklands must pass a viva voce examination set by the board of examiners. Every student gaining the college diploma is assisted and advised by the careers department during the first three years of his career subsequent to leaving the college. The syllabus of the college and enrolment form for probationary terms commencing during 1935 can be obtained upon application to the Secretary, College of Aeronautical Engineering, Chelsea, London, S.W.3.

# THE ROYAL AIR FORCE

Service Notes and News



Air Ministry Announcements

## No. 203 (F.B.) SQUADRON

The three Short "Rangoon" flying-boats (Bristol "Jupiter" engines) of No. 203 (F.B.) Sqdn., which are to take part in the centenary celebrations at Melbourne, arrived at Darwin, their first contact with Australia, on September 26. They proceeded according to schedule to Milingimbi Islands on September 27, and arrived at Cooktown on September 29. They arrived at Bowen on October 1, and Brisbane on October 2. They were due at Sydney on October 5 and at Melbourne on October 8.

## OPENING OF R.A.F. STATION, MILDENHALL

Mildenhall will open as a R.A.F. station on October 16, 1934. No. 99 (Bomber) Squadron will move from Upper Heyford to Mildenhall. The move is to be completed by November 14, 1934. The postal address will be: Royal Air Force Station, Mildenhall, Bury St. Edmunds, Suffolk, and the telegraphic address will be: Aeronautics, Mildenhall.

## REOPENING OF No. 2 FLYING TRAINING SCHOOL

Digby was removed from a care and maintenance basis and was reopened as a R.A.F. station on October 1, 1934. No. 2 Flying Training School re-formed at Digby on that date. The first course after reopening will commence on November 5th, 1934. Under arrangements made by the Officer in Command Records, the families of airmen overseas are in process of being evacuated from the airmen's married quarters, which will become available for the married airmen of the station under normal procedure.



THE TARGET: Nearly 100 ship-planes on the deck of the U.S. Carrier *Saratoga*.

## SIR PHILIP SASSOON'S TOUR

Sir Philip Sassoon, Under-secretary of State for Air, who is now absent on a 19,000-miles tour of inspection of Royal Air Force stations overseas, arrived at Dum Dum aerodrome, Calcutta, on October 5, in the Imperial Airways machine *Arethusa*. Next day he left for Singapore to inspect the headquarters and station of the R.A.F. Far East Command. Although this Command is still modest in point of numbers, and is not commanded by an officer of Air rank, it is of great strategic importance, and may in time develop into one of the largest of the overseas Commands of the R.A.F. At present it is commanded by Group Capt. Sydney W. Smith, O.B.E., who has under his orders No. 205 (Flying Boat) Squadron, soon to be re-equipped with the "Singapore 3" (four "Kestrels"), No. 36 (Torpedo-Bomber) Squadron which still flies the "Horsley" ("Condor"), and No. 100 (Bomber) Squadron, which has the torpedo-bomber landplane the "Vildebeest" ("Pegasus"). The last-named squadron in reality belongs to the Home Defence force, but is on loan to the Far East Command.

## PERMANENT COMMISSIONS FOR DENTAL OFFICERS

The undermentioned dental officers have been selected for permanent commissions, subject to physical fitness: Flight Lieuts. (ord.) Michael Joseph Pigott, B.D.S., and Roy Scoggins, L.D.S.

## ACCIDENT ON H.M.S. COURAGEOUS

The Air Ministry regrets to announce that F/O Leonard Nicholas Elsner, the pilot of the aircraft, is missing and believed to have been drowned as the result of an accident, which occurred in the Firth of Forth on October 5, 1934, to a "Baffin" aircraft of No. 810 (Fleet Torpedo-Bomber) Squadron.

No. 362272 Sgt. Harry Brett Bexley, the passenger of the aircraft, was injured.

## THE ROYAL AIR FORCE BENEVOLENT FUND

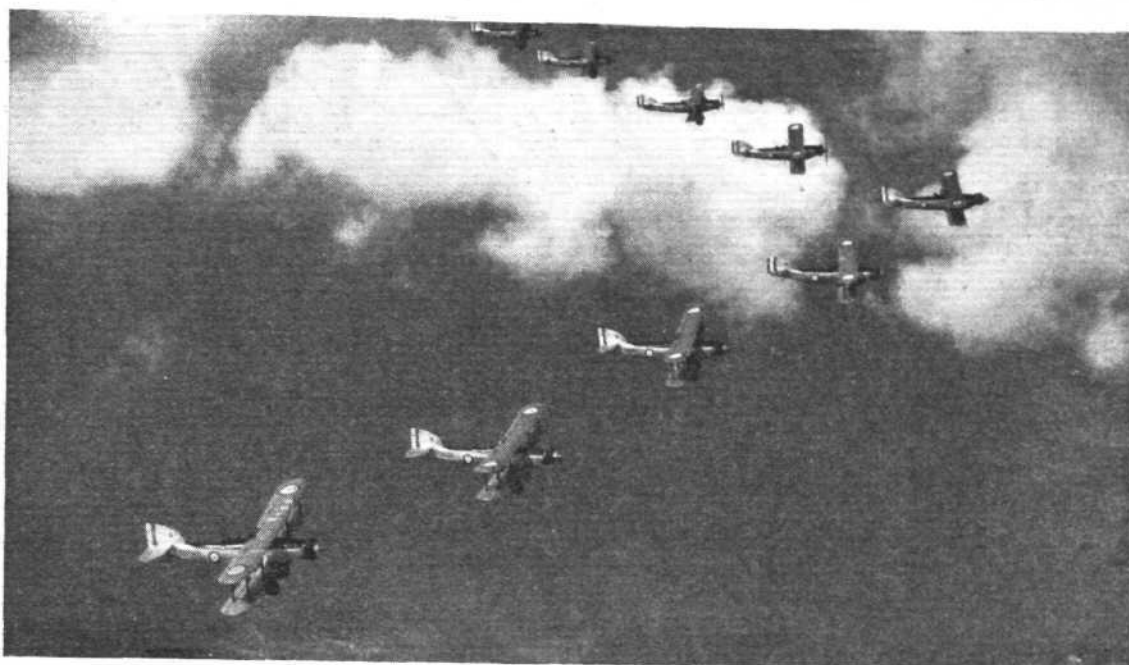
The usual meeting of the Grants Committee of the above Fund was held at Iddesleigh House on Tuesday, October 2, 1934. Mr. W. S. Field was in the chair, and the other members of the committee present were Air Commodore B. C. H. Drew, C.M.G., C.B.E., Wing Com. H. P. Lale, D.S.O., D.F.C., and Mrs. L. M. K. Pratt Barlow, O.B.E. The Committee considered a number of cases, and made grants to the amount of £223 9s. 7d. The next meeting was fixed for Thursday, October 18.

A Council Meeting was held at the offices of the Fund, No. 7, Iddesleigh House, Caxton Street, London, S.W.1, on October 3, 1934. Sir Charles McLeod, Bart, was in the chair. The Council have to record with much regret the resignation of Sir Charles McLeod, who has been a Member of Council and Hon. Treasurer to the Fund since its inception and, in addition, the Chairman during the last six years. The usual financial resolutions were carried. The Council were informed that grants to the amount of £2,616 4s. 2d. had been disbursed since the last meeting on July 11, 1934. The number of cases dealt with so far this year total 1,543, representing a drop in the last few months which has, however, not altogether counteracted the big number of applications received during the early part of the year, and there is a net increase of 66 over the numbers recorded for the same period last year.

The Armistice Ceremony at the R.A.F. War Memorial is to be held at 11 a.m. Sunday, November 4, i.e., the Sunday before Armistice Day, as is usual, so as to facilitate the attendance of relatives and friends of the Fallen.

The next meeting is due to take place on Wednesday, December 5, 1934.





**SQUADRON "V": Fairey "Gordons" with Siddeley "Panther" engines flown by No. 40 (Bomber) Squadron. (Flight Photo.)**

## ROYAL AIR FORCE GAZETTE

*London Gazette, October 2, 1934*

### General Duties Branch

F/O. M. Watson is granted a permanent commission in this rank (Oct. 3).

The follg. are granted temporary commissions as Flying Officers on attachment to the R.A.F. (Sept. 16):—

LIEUTS., R.N.—The Hon. P. C. Carew, R. J. H. Stephens.  
SUB-LIEUTS., R.N.—H. H. Bracken, E. G. Savage, E. A. Shaw, G. A. Vardon, M. W. Watson.

LIEUT., R.M.—F. W. Brown.

The follg. Flying Officers are promoted to the rank of Flt. Lt. with effect from Sept. 15:—R. F. Fletcher, R. C. Dawkins.

The follg. Flt. Lts. are promoted to the rank of Sqd. Ldr., with effect from Oct. 1:—V. S. Parker, D.F.C., T. M. Williams, M.C., D.F.C., C. P. Brown, D.F.C., V. E. Groom, D.F.C., F. Wright, W. J. Seward, J. A. Gray, D.F.C., F. Beaumont, G. S. Shaw, J. McFarlane, M.C., A.F.C., R. L. McK. Barbour, D.F.C., A.F.C., R. J. Rodwell, C. E. Williamson-Jones, D.F.C., N. Ll. Descer, J. Blackford, J. T. Paine, E. J. Kingston-McCloughry, D.S.O., D.F.C.

Lieut. I. C. Rowe, R.N., Flying Officer, R.A.F., ceases to be attached to the R.A.F. on return to Naval duty (June 18); Wing Com. H. S. Powell, M.C., is placed on the half-pay list, scale A. (Sept. 26); Wing Com. G. W. Williamson, O.B.E., M.C., is placed on the retired list and is temporarily re-employed on the active list (Sept. 22); Sqd. Ldr. S. T. Freeman, M.B.E., is placed on the retired list at his own request (Sept. 30).

### Medical Branch

Flt. Lt. J. J. Corcoran, M.B., B.Ch., is transferred to the Reserve, class D (Oct. 1); Flt. Lt. (Hon. Sqd. Ldr.) J. G. Skeet, M.R.C.S., L.R.C.P., relinquishes his temporary commission on completion of service and is permitted to retain the honorary rank of Sqd. Ldr. (April 7). (Substituted for the notification in the *Gazette* of May 1.)

### Chaplains Branch

The Rev. G. H. Collier, M.A., is promoted to the relative rank of Group Captain (Aug. 12).

### Commissioned Engineer Officers

The follg. Flying Officers on probation are confirmed in rank (Sept. 11):—J. T. Brown, T. E. Guttery, M.B.E.

### Commissioned Signals Officer

Flying Officer on probation F. Wilmshurst, D.S.M., is confirmed in rank (Sept. 11).

### Memorandum

The permission granted to Sec. Lt. J. L. Bullard to retain his rank is withdrawn on his enlistment in the Royal Artillery (Territorial Army) (April 20).

## ROYAL AIR FORCE RESERVE

### Reserve of Air Force Officers

#### General Duties Branch

The follg. Pilot Officers on probation are confirmed in rank:—A. N. Bardolph (Aug. 14); A. T. Irvine (Aug. 17); J. H. C. Beard (Sept. 21).

F/O. H. A. Lotherington is promoted to the rank of Flt. Lt. (Oct. 2).

The follg. Flying Officers are transferred from class A to class C:—E. A. Burbidge (Dec. 20, 1933); W. A. Hammerton (Jan. 31); K. C. Baker (Aug. 31); F. T. Digby, D.S.O., D.S.C. (Oct. 2).

F/O. M. H. Armstrong is transferred from class B to class C (Aug. 8); the notification in the *Gazette* of July 31 concerning F/O. H. E. Sales is cancelled.

The follg. Flying Officers relinquish their commissions on completion of service and are permitted to retain their rank:—H. A. Boniface (Sept. 12); S. J. Clinch, D.C.M. (Sept. 30).

F/O. L. D'A. Orpen relinquishes his commission on account of ill-health (Oct. 3); the commission of Pilot Officer on probation G. T. W. Champneys is terminated on cessation of duty (Aug. 31).

## SPECIAL RESERVE

### General Duties Branch

The commission of Pilot Officer on probation B. Money is terminated on cessation of duty (Oct. 2).

## AUXILIARY AIR FORCE

### General Duties Branch

No. 604 (COUNTY OF MIDDLESEX) (FIGHTER) SQUADRON.—A. L. Maffey is granted a commission as Pilot Officer (Sept. 3).

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

### General Duties Branch

**Wing Commander.**—G. C. Pirie, M.C., D.F.C., to D.O.I., Dept. of Chief of the Air Staff, Air Ministry, 28.9.34, vice Grp. Capt. W. A. McLaughry, D.S.O., M.C., D.F.C.

**Squadron Leader.**—E. A. Beulah, to D. of O., Dept. of Chief of the Air Staff, Air Ministry, 24.9.34, vice Wing Com. A. S. G. Lee, M.C.

**Flight Lieutenants.**—C. Guppy, to No. 207 (B) Squadron, Bircham Newton, 21.9.34. C. H. Johnson, to H.M.S. *Hermes*, 20.9.34. J. L. F. Fuller-Good, to Royal Air Force College, Cranwell, 27.9.34. J. McFarlane, M.C., A.F.C., to No. 201 (F.B.) Squadron, Calshot, 15.9.34. A. M. Watts-Read, to No. 13 (Army Co-operation) Squadron, Netheravon, 25.9.34. P. C. Fair, to Home Aircraft Depot, Henlow, 26.9.34.

**Flying Officers.**—R. T. Gething, to No. 201 (F.B.) Squadron, Calshot, 15.9.34. G. Farnhill, to R.A.F. Base, Leuchars, 24.9.34.

**Pilot Officers.**—G. D. M. Blackwood, to Headquarters, Coastal Area, Lee-on-Solent, 24.9.34. J. H. Becher, to No. 12 (B) Squadron, Andover, on appointment to a Permanent Commission, 29.9.34. L. W. Burgess, to No. 204 (F.B.) Squadron, Mount Batten, 15.9.34. P. H. Dunn, to No. 201 (F.B.) Squadron, Calshot, 15.9.34. J. H. Hill, to No. 800 (F.F.) Squadron, Upavon, 26.9.34. R. H. S. McConnell, to No. 204 (F.B.) Squadron, Mount Batten, 15.9.34. P. C. Lawrence, to No. 15 (B) Squadron, Abingdon, 19.9.34. J. B. Ussher, to No. 15 (B) Squadron, Abingdon, 14.9.34.

### Accountant Branch

**Wing Commander.**—H. F. Fuller, to Headquarters, Coastal Area, Lee-on-Solent, 24.9.34. For duty as Command Accountant vice Wing Com. H. G. Jones.

# COMMERCIAL AVIATION

## — AIRLINES — AIRPORTS —

### THIS AIR MAIL BUSINESS

*Why has one company been given an Air Mail contract on the first day of its operation when another has been placed on an unreasonably long probationary period?*

*A contributor demands a clear statement*

THE majority of our internal air lines have still to prove themselves fit to carry freight as sacred as His Majesty's mails, and the Postmaster-General would only have been showing intelligent caution if he had put each operating company on a reasonable period of probation.

When, however, Railway Air Services, Ltd., were given the mails on their very first day of operation most people felt that the G.P.O. was showing an intelligent appreciation of modern conditions which was both surprising and refreshing.

Such a feeling has proved to be premature. Apparently it applied only to certain favoured companies, for there is at least one which has flown a difficult route for more than six months with almost 100 per cent. regularity, and yet this company cannot obtain mails to carry. When the postal authorities were approached they informed the company that air mail questions could only be discussed after the route had been flown for six months throughout the winter.

So here we have two commercial companies, one of which hoists the coveted air mail pennant on its inaugural flight, and the other, after six months' successful operation, is informed by the Postmaster-General that a full year's probationary flying is necessary.

Not unnaturally, some explanation of this extraordinary preferential treatment was asked for, and the answer reported to have been given by the authorities was certainly amazing. It was, one is informed, to the effect that the railway companies had had a great deal of experience of carrying mail bags in trains, and that they also had considerable knowledge of the ground organisation of the G.P.O. Possibly there is precedent for this. Did a group of stage coach magnates find one of the early railway companies and obtain preferential treatment because they knew how to stow mail bags in the "boot" and on account of their knowledge of how to hand mails to the post office on arrival?

The carriage of mails by air is quite the simplest business that can be undertaken by an air traffic company. Sealed mail bags are handed in at one end and given into the charge of the postal authorities at the other. Even interrupted flights present no difficulties. It is only necessary to telephone for instructions and place the mails in charge of the guard on the next train. It may be mentioned that air companies, both British and foreign, have been carrying mails to and from the Continent for years without experience of railway trains or of the ramifications of postal organisation at home or abroad. What is needed by the G.P.O. is a regular, well-organised air service and a little common sense.

There is another aspect of this business. Railway Air Services, Ltd., is a purely commercial undertaking seeking to establish air routes wherever these may seem now or in the future to be profitable. There is no reason, therefore, why it should not put a service on the route now flown by the firm already placed on a year's probation. If this occurs, will the air mail pennant be triumphantly hoisted when the first Railway Air Service machine takes off, and will the older company, with all its experience of that particular route, need to say farewell to all chance of mail carrying?

On the face of it, all internal air transport companies must be regarded as equal, but everybody knows that some have great financial resources whilst others are making a fight with very small capital.

It would be quite logical if the postal authorities were to show a preference for the wealthy companies, and if this is the case, why do they not say so bluntly instead of making all sorts of excuses? Great resources, after all, should mean better services.

The smaller companies would then know where they stood, and would realise that however good a show they put up, they would obtain little or no encouragement from the G.P.O.

"RICHARD CARVETH."



**THE LATEST WIBAULT:** This Wibault 366 carries five passengers, or the mail equivalent, at a cruising speed, it is reported, of 190 m.p.h. It is of particular interest, if only because the engine, an Hispano-Suiza, 12 Ybr. (860 h.p.), is water-cooled—which is rare in a commercial machine to-day.



## CROYDON

*Preparing for the England-Australia : A K.L.M. Gesture : Rollasons Busy :  
A "Hengist"-load of Celebrities : To Newfoundland*

THE Australia race looms large in thoughts and conversation at Croydon just now, for quite a number of people well known to all at this airport are intimately concerned with it.

Mr. "Jimmy" Jeffs is getting ready to pack and depart for Mildenhall, where he has the onerous job of control officer. Various K.L.M. pilots are expected shortly to pass through Croydon *en route* for Mildenhall. Parmentier and Moll with the Douglas, the company's own entry, Geisendorfer, "loaned" by K.L.M. to the proprietors of the "Postjager," and finally Smirnoff, who was originally to have flown one of the "Comets," and who is believed to be somewhere in England.

It is a sporting gesture on the part of K.L.M. to loan two crack pilots to rivals in the race. They say that all the K.L.M. entrants are hoping for bad weather, which, with their intimate knowledge of the route as far as Batavia, will give them a definite advantage.

Rollason Aircraft Services, of Croydon, are also interested in the great race, having secured the job of assembling the Irish entry, Col. Fitzmaurice's Bellanca *Irish Swoop*, when it reaches this country. At the moment of writing an inspector and six men from Rollason's are at Eastleigh awaiting the machine. Rollason's are extremely busy, too, in other ways. One of their pilots has just flown a machine out to a purchaser in Copenhagen, and enquiries for second-hand aircraft are coming in from all over Europe, Africa and India. A night staff is now employed, and one of the daily early morning newspaper machines from Croydon is serviced by them. The workshops are full up, and the hangar is usually tightly packed with aeroplanes, including six "Dragons."

I am told, by the way, that Mr. Aler, of K.L.M., the company's flying superintendent, will be at Mildenhall with three mechanics in addition to the flight engineer of the Douglas.

On Thursday last quite a number of things happened. When

*Hengist* arrived, Lady Milford Haven, Prince Ali Khan, and Sir Malcolm Campbell were on board, in addition to General Smuts, who was met by Col. Shelmerdine, Mr. Berliam, and Major Richard of the Air Ministry. If as many celebrities had stepped from one machine in the early days a panic would have been caused. On the same day, at 8.30 a.m., Mr. Frank Butters, the Aga Khan's trainer, flew by Imperial to Paris to see "Felicity" race. Mr. Butters had not flown before—most unusual in a racing man of note.

Mr. Bushby, the Australian cricket team manager, also made his first flight on the same machine *en route* for Toulon, where he joined the team. In the evening Imperial Airways Swimming Club held a "gala."

At the week-end many leading motor car agents, manufacturers and coachbuilders flew over to Paris by Imperial Airways for the Automobile Salon. There was, however, some delay on the return journey, as the weather conditions near the coast were "impossible," and the machine was sitting quietly at Abbeville.

The connection which can now be made between the Isle of Wight line and both north- and south-bound Glasgow machines at Croydon offers excellent facilities to passengers from Transatlantic liners, which usually berth early in the morning at Southampton.

Capt. W. H. Drury, of Imperial Airways, Ltd., and another pilot not yet named will shortly proceed to Newfoundland by boat with two "Fox Moths" which have been acquired by the Government for the use of officials. Capt. Drury is a Canadian accustomed to the type of flying he will have to do. The machines will be adaptable for skis or floats.

A client of Olley Air Service, a well-known bookmaker, Joe Lee, has invented a jolly substitute for "dinner and bridge." He entertains his friends to dinner in London, a motor car ride to Croydon, and a night flight over London. The first of these parties was held last Friday evening. A. VIATOR.

## HESTON

*Service for Purchasers : Eight Thousand Miles a Week : A Practising Preacher*

PURCHASERS of new and second-hand aircraft frequently bring their machines to Heston for an acceptance inspection and test. The aeroplane is passed through the Airwork Inspection Department to ensure that the details comply with the purchaser's specification. It is then submitted to accurate fully-loaded flight trials to see that the performance is comparable with the specification laid down by the manufacturers and required by the purchaser. These facilities are particularly useful to overseas purchasers who require an impartial opinion and report on their aeroplanes prior to shipment. De Havilland "Dragons" and British Klemms are among the aircraft recently submitted to this independent examination and trial.

Capt. George Pond, who with Lt. Cesare Sabelli landed at Heston on May 25 after an Atlantic flight, is making a last-minute dash to America by sea to fetch the Vultee V-1 machine which he has entered for the England-Australia race. He and his co-pilot, Mr. H. W. G. Penny, chartered a Birkett machine from Heston on October 3 in an endeavour to catch the *Majestic* at Southampton. As the boat train left London two hours before they did, it is not surprising that they failed

to manage it, and they are therefore travelling on another liner which sailed the following morning. Heston was not informed whether they intended to fly or to ship the machine over from America. In any case their chances of competing in the race appear to be slight.

Birkett Air Service reported the total mileage for a recent week as 8,650. Air taxi companies, whose business at the present day is still mainly with the Press, are among those fortunate organisations whose activities continue all the year round with very little perceptible slackening during the winter.

The flying school is 39 per cent. up on last year's figures for September.

On diffidently approaching on eight-weeks-old baby for details of its trip from Jersey yesterday, "it" was discovered to be the youngest representative of the family of Mr. W. L. Thurgood, the proprietor of Jersey Airways, Ltd. A further investigation revealed Mrs. Thurgood, two further younglings aged four and two respectively, and, lastly, Mr. Thurgood himself—practising what he preaches in his quiet manner. None of the family seemed to have noticed the half gale which was blowing at the time.

## Shetland Next Year

Next year it is possible that Highland Airways, Ltd., whose guiding spirit is E. E. Fresson, will extend their lines to Shetland. The company has been granted landing rights at Sunburgh, on the main island, and this run might have been included in the 1934 timetable if wireless had been used.

Permission has now been obtained for experimental contact with the station at Wick (GKR).

## Egyptian Air Lines

The summer services to Mersa Matruh and Ras el Bar have now been discontinued by Messrs Airwork's Egyptian Air Lines, but the figures remain high for those to Alexandria, Palestine, and Port Said. That to Palestine is a particularly useful one, saving, as it does, many hours of travelling, and this leaves on Mondays, Wednesdays and Fridays at 8.10 a.m., returning at 12.30 p.m., during the autumn.

**Commercial Aviation****THE SOUTH ATLANTIC MAIL ROUTE***Air France's Plans for Next Year : Flying Boats and Landplanes to be Used*

**T**HE final preparations are now being made by Air France for a progressive speeding-up of their air line from Europe to South America.

At present despatch boats carry the mails over the 2,100 miles between Dakar on the African coast and Natal on the Brazilian coast. During the present winter the distance covered by these despatch boats is to be reduced by some 800 miles, so saving a day, and next summer the boats will be dispensed with altogether in favour of aircraft.

Already seventeen flights across the Atlantic have been made by the Company, nine in the three-engined Couzinet landplane *Arc en Ciel*, and eight in the four-engined Latécoère flying boat *Croix du Sud*. Yet another should be made towards the end of this month by the Bleriot *Santos Dumont* four-engined flying boat, which has just completed its tests. Later two other aeroplanes will be added to the fleet—a large four-engined Farman and a four-engined Lioré flying boat similar in layout to the type at present used on Air France's Mediterranean services, but with four 650 h.p. engines. While experiments are being carried out with these machines, three of the batch of five *Croix du Sud* type flying boats which have been ordered by the French Air Ministry will be set aside in case they may be needed to operate the service after the present series of flights has been completed.

Meanwhile, however, the ocean crossing is to be shortened. Instead of transferring the mails at Dakar to the despatch boats, the aeroplane will leave the African coast at a more northerly point and fly to the Cape Verde Islands, transferring the mails to the despatch boat there. This will shorten the water journey by approximately 450 miles. In addition, the

despatch boat, instead of proceeding to the Brazilian coast, will halt at the islands of Fernando de Noronha, 300 miles from the mainland. These islands have hitherto been thought impracticable for landplanes, but concrete runways have been constructed and fast Fokkers will fly out from the mainland to land here and pick up the mail. On the Africa-Cape Verde Islands stretch Wibault-Penhoets similar to those used on the London-Paris service, but without seats, will be operated when this system is put into operation.

In this manner a day will be saved in the transport of mail between Europe and South America. In addition, valuable operational experience of the South Atlantic route will be gained, and when it is decided to fly regularly over the whole route, only 1,400 miles of water will remain to be bridged by air.

These initial plans will be put into operation during November and the "all-air" route will, it is expected, be operating before the summer of next year. The saving of time that will finally be made was shown by one of recent experimental air crossings, when the mails were unloaded at Croydon and delivered to the G.P.O. 2 days and 5 hours after leaving South America—an overall average speed of 106 m.p.h.

So far the most experienced of the Transatlantic pilots is Mermoz, who has made nine crossings in the Couzinet *Arc en Ciel*, and had previously made two crossings in a Farman machine. His record is, however, being challenged by Com. Bonnot, who piloted the *Croix du Sud* on her eight crossings. The Bleriot, which makes its first crossing this month, will be piloted by Bossoutrot, formerly a pilot on the Air France London-Paris route.

**Aerodromes in India**

It has been decided that, subject to the exigencies of the services, civil machines will be permitted to make use of R.A.F. aerodromes in India.

**Northern Airways**

As the season is over, Mr. George Nicholson has withdrawn the Newcastle-Carlisle-Isle of Man service, and this will be started again by Northern Airways next May, when there are possibilities that a further service may be put into action.

At present the D.H. "Dragon" is available for private charter work.

**A New "Air Pilot of Great Britain"**

Few Government publications are so excellent in all ways as is "The Air Pilot of Great Britain and Ireland." The latest edition of this work is now available from H.M. Stationery Office, price 12s. 6d., postage extra. It contains a vast amount of information about flying, provides an authority on the rules and regulations, and is a mine of great value when it comes to the details of all licensed aerodromes. This new edition is much better arranged than the previous one, and it has been sectionalised so that reference is easier. Seaplane stations now come under a separate heading, as does the information about organised airways. It is, in short, a book which no pilot can afford to do without.

**G.A.P.A.N. Navigation Lectures and W/T Course**

The annual winter session of the Guild of Air Pilots and Air Navigators of the British Empire Lectures in connection with the examination to be held in March next, will commence about October 23 and continue for five months. The Classes will be held twice weekly from 6-7.30 p.m., the fee being £5 5s., which includes the use of maps, charts and equipment. A set of books covering the required subjects can be had on loan for those taking the classes at a cost of £1 for the entire period, plus a deposit. The Classes will be held in London and those who wish to join should send their names together with £5 5s. to The Clerk, Guild of Air Pilots, 61, Cheapside, E.C.2. The Guild has also made tentative arrangements with the London Telegraph Training College for a Course from about the middle of October to the end of March next, covering all subjects in connection with the Air Ministry W/T Licence, at a reduced fee.

**Continental Air Mail Reductions**

New charges are now in force whereby parcels for European countries can be sent for sums varying between 1s. 4d. and 4s. for the first pound, with a lower rate, between 4d. and 1s., for each subsequent pound up to 22.

**New Chinese Air Line**

The South-West Aviation Company of Canton is contemplating a new air line connecting Canton, Hainan Island, and Nanning. The line between Canton and Lungchow has been very successful since its inauguration.

**Increase Extraordinary**

Some interesting figures have been received from the Portsmouth, Southsea, and Isle of Wight Aviation, Ltd., showing the growth of traffic during the last three years, each being taken up to September 30.

In 1932, 15,418 passengers were carried; in 1933 the number was 16,395; and this year the figure has been more than doubled, totalling 39,211. Between 1933 and 1934 the number carried on the "ferry" service was actually trebled, and rose to 25,782 this year.

The total mileage has increased from 70,250 in 1932 to 355,195 in 1934.

**The Advantages of Air Mail**

The accompanying table, prepared by Imperial Airways, Ltd., shows the cost of sending a letter by air to various destinations along the Empire routes, with the times by air and surface transport, and an indication of the time saved by air despatch:—

Destination.	$\frac{1}{2}$ oz. Letter. (Cost.)	Time. By Air. (Days.)	Surface Transport. (Days.)	Days Saved by Air.
Cairo...	3½d.	2½	5	2½
Baghdad...	3½d.	3	6-7	3-4
Khartoum...	5d.	3	9-12	6-9
Nairobi...	7d.	5	16-24	11-19
Calcutta...	8d.	6	16	10
Rangoon...	8d.	7	19	12
Johannesburg...	9d.	8	18	10
Singapore...	11d.	8	22	14
Cape Town...	10d.	9	17	8



# CORRESPONDENCE

*The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.*

## A FLAT RATE FOR AIR MAILS

[From Admiral Mark Kerr.]

[2964] The reduction in the postage rates for air mail parcels to Europe is a splendid concession.

What is equally gratifying is the evidence it affords of the intention of the Postmaster-General to seize every opportunity of assisting the industrial community and the private citizen even when this desires a greater degree of courage than individual members of Governments usually possess.

He has given us cheap telephones and cheapened our air parcel post. Is it too much now to hope that he will give us another great boon with still more far-reaching consequences in the shape of a low flat rate for all letters carried by air?

The air mail parcel concession will certainly be of advantage to those who use this service. But a low flat rate for air-borne letters would have far wider repercussions. Besides being a boon to business men and private correspondents, the latter would provide an enormous impetus to our aircraft manufacturing industries and establish our air routes throughout the Empire.

The expense, provided by the Post Office, will be returned by the increased facilities in trade negotiations throughout the world—for speed in mails is one of the three foundation stones of prosperous trade.

MARK KERR.

London.

## SAMUEL PIERPONT LANGLEY

[2965] To your editorial on Langley, August 30, 1934, permit me to add that he was the first person in history to construct a successful gasoline airplane—an epochal achievement.

His quarter-scale model of the one-man monoplane on August 8, 1903, flew publicly with good inherent equilibrium and landed upright on the water according to schedule. Previously in private it had flown successfully many times both with monoplane and with biplane wings.

From the flight of the monoplane model Dr. Langley and

other competent judges, including Chanute, Manly and Wilbur Wright, concluded that the quite similar full-scale machine was competent to make a successful pioneer flight, if suitably launched. All of them have recorded this opinion which has been endorsed by many subsequent engineers.

True, Ader in 1890-91 taxied his monoplane successfully and made several straightaway flights ranging up to 100 metres. Still Langley had "the first dynamic aeroplane of adequate stability and power to carry a man in prolonged flight." If he could not taxi or take off in still air, without further provision, neither could any contemporary plane prior to 1906, when Santos Dumont made his bold straightaway hops.

A. F. ZAHM,

Washington, D.C., U.S.A. Chief, Division of Aeronautics.

## THE CHANNEL ACCIDENT

[2966] When reading your issue dated October 4th, and in particular the matter under heading "Commercial Aviation News," paragraph "The Channel Accident," we were very surprised to learn that a message of distress (founded on fact *vide* your paragraph) was received from the pilot of our aircraft G-ACPM, which, unfortunately, crashed in the English Channel round about 11 o'clock on the 2nd instant.

From our investigations and knowledge this cannot be substantiated, and, as the remark in question, "Judging from the fact that a wireless call for help was despatched, etc.," more or less infers that a failure had occurred to airframe or engines, we ask you to correct an impression which could do no good to either the makers of airframe and engines or ourselves.

HILLMAN'S AIRWAYS, LTD.,

R. J. Cust, Chief Engineer.

[The paragraph in question was written from the news obtainable at the moment of going to press, and the information was discovered later to be incorrect. It was, however, mentioned that Croydon had not received any message asking for help.—ED.]

## Saunders Roe, Ltd., Expanding

Important contracts for military and civil aircraft are anticipated by Saunders Roe, Ltd., necessitating reorganisation and extension of the company's premises. Plans include the expenditure of thousands of pounds on reconstruction work, the employment of a large number of men, and the taking over of part of Medina Road.

## A New Aero Engine

General Aircraft, Ltd., who, as recorded in *Flight* some months ago, have acquired the services of Mr. A. H. Caple, one-time designer to the Cirrus-Hermes Engineering Company, announce that their new engine has passed its first bench tests. This engine is a four-cylinder air-cooled inverted Vee type engine. It has side valves, electric starting, weighs 200 lb., and has an output exceeding 100 h.p. It will shortly be flight-tested in a Monospar aeroplane.

## Department of Scientific and Industrial Research

The Lord President of the Council has appointed Sir John Cadman, G.C.M.G., D.Sc., M.Inst.C.E., and Sir James H. Jeans, D.Sc., LL.D., F.R.S., to be members of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research. Sir Arthur Balfour, Bart., K.B.E., J.P., Sir William H. Bragg, O.M., K.B.E., D.Sc., F.R.S., and the Right Hon. Lord Rayleigh, Sc.D., F.R.S., have retired from the Council on the completion of their terms of office.

## Wakefield Scholarship Awards

The scholarships presented annually by Viscount Wakefield to the Colleges of Automobile and Aeronautical Engineering, Chelsea, S.W.3, have been awarded for 1934 to the following:—B. W. B. Orton, 55, Brooke Avenue, Harrow, Aeronautical Engineering £150; M. A. F. Hirst, Woodfold, Ashley Road, Solihull, Birmingham, Aeronautical Engineering £150; W. M. H. Stevens, Ayven, Harestone Hill, Caterham, Surrey, Automobile Engineering £100; R. G. Dodds, 36, Rollscourt Avenue, S.E.24, Automobile Engineering £100. The scholarships are tenable for two and three-quarter and two years respectively.

## The Dowty Components

Aircraft Components, Ltd., of Cheltenham, Glos, have supplied the tail-wheel shock-absorber unit for the Bergamaschi monoplane which will be flown by Sig. Lombardi in the England-Australia race.

## Aero Golfing Society

The Autumn Meeting of the Aero Golfing Society was held at Swinley Forest on September 27. J. P. C. Magwood, with a score of 85-13=72, won the Cellon Challenge Trophy. The Four Ball Foursomes were won by A. J. A. Wallace Barr and J. P. C. Magwood with a return of 4 up.

## Institution of Automobile Engineers' Crompton Medal

At the opening meeting of the new session on October 2, the Crompton Medal, which is awarded annually by the council for the best paper presented to the Institution during the previous year, was presented to Capt. G. S. Wilkinson, F.R.Ae.S., M.I.M.E., M.I.A.E., Director and Chief Engineer of D. Napier & Son, Ltd., for his paper on aero engine design. It will be recalled that in 1928 the council awarded the Institution medal to Capt. Wilkinson for his work in the development of the Napier "Lion" racing engine used in Capt. Sir Malcolm Campbell's Blue Bird car, which established a new world's record.

## The Heston Golfing Society

Last Thursday the Heston Golfing Society, which has recently been formed and which is affiliated to the Richmond Golf Club, held their first meeting. The results were:—

*President's Trophy.*—1, Mr. Jock Cameron, 90-12=78; 2, (tied) Mr. F. R. Walker, 89-8=81, and Dr. E. H. Thierry, 97-16=81.

*Captain's Cup.*—1, Mr. F. R. Walker (handicap 8), 4 down; 2, Mr. Jock Cameron (handicap 12), 6 down.

The president of the Society, incidentally, is Mr. A. J. A. Wallace Barr, and the captain and hon. sec. is Mr. B. S. Allen, of Henlys, Ltd. Among the members are most of the well-known "Heston-ites."

# THE INDUSTRY

## HIDUMINIUM FOR AIRCRAFT

**H**IDUMINIUM R.R.56 is an alloy which, on account of its lightness and strength, is greatly in demand by aeroplane manufacturers. The properties possessed by this alloy render it suitable for use in the production of highly stressed engine parts as well as for structural components. Within recent months the Reynolds Tube Co., Ltd., Tyseley, Birmingham, have constructed buildings and laid down plant specially for handling Hiduminium. A vast shop is devoted to this work, and has an area of about 37,000 square feet. It is equipped with the latest machinery, which includes extruding plant, electric furnaces for proper heat treatment, quenching and degreasing equipment, and several lines where tube drawing is carried out.

In so short a space it is impossible to touch even the fringe of the activities of this well-known firm, but they include the extruding of all manner of sections in this new alloy, from massive rectangular bars for the forging of connecting rods to intricate shapes and tubes for fuselage and other structural parts. There is practically no section that Reynolds cannot produce, and a special tool room is devoted to the forming of dies to deal with any required shape.

The anodising process, whereby the finished parts may be treated, is also of special interest, since it is not a plating process in which another metal is deposited, but an oxidation of the alloy.

Automatic control of the material from the beginning to the end of each process eliminates the possibility of mistakes, and all material is thoroughly tested in a finely equipped laboratory before despatch. Finally, it should be noted that in addition to the manipulation of tubes and sections, these can be formed ready for building up by customers.

The Reynolds Tube Company have leaflets—and a catalogue will shortly be ready—dealing exhaustively with the work they are doing in Hiduminium.

## A GENERAL AIRCRAFT ISSUE

On October 9 General Aircraft, Ltd., presented to the public a prospectus of an issue at par of 1,500,000 shares of 5s. each. The new company, which bears the same name, will have an authorised capital of £400,000, of which £375,000 was issued as above, and will acquire the goodwill and assets of the original company. Freehold property has been acquired at Feltham (Hanworth), where a factory will be established, and the company's activities transferred there from Croydon. It is intended in the future to extend the development of "Monospar" aircraft, not only for commercial purposes, but for Service types as well. The Chairman of the company is Sir Maurice Bonham-Carter.

It may be of interest to note that one of the principal aeroplane distributing companies has placed an order with General Aircraft, Ltd., for 55 Monospar machines—the S.T.4, the S.T.10 and the S.T.11.

## MOSELEY UPHOLSTERY FOR MACROBERTSON RACERS

Comfort will be a consideration of the utmost importance in the England-Australia Race. No fewer than fourteen competitors are having their machines fitted with Moseley "Float-on-Air" pneumatic upholstery. Four foreign pilots are included in this number.

## A "HAWK" FOR DENMARK

Phillips & Powis Aircraft (Reading), Ltd., recently delivered by air a Miles "Hawk" (G-ACMH) to Copenhagen in quite good time. Leaving Heston at 8.30 a.m. (with a weather report of heavy rain), a course was flown along the Franco-Belgian coast, the "heavy rain" being encountered at Ostend, and Rotterdam was reached after 2 hr. 10 min. from Heston. The next 311 miles to Hamburg took 2 hr. 30 min. in improving weather conditions, while the final hop to Copenhagen was completed in 1 hr. 40 min. The total time for the 700 miles was 6 hr. 15 min., giving an average speed of 112 m.p.h.

## AVIATION INSTRUMENTS

Short & Mason, Ltd., of Walthamstow, London, E.17, have just issued a temporary edition of their aviation and meteorological instrument catalogue, in which are described and illustrated the various instruments of their manufacture. These include an extensive range of aeroplane and airship altimeters, altigraphs, airspeed indicators and recorders, radiator and oil temperature thermometers, oil and fuel pressure gauges, boost gauge, r.p.m. indicators, turn indicators, compasses ("Ses-trel"), wind indicators, micro-barographs, etc.

## FLIGHT

and the

## ENGLAND-AUSTRALIA RACE

**SPECIAL** arrangements have been made by *Flight* to deal exhaustively with the MacRobertson Race.

A special number will be published on October 18th, which will constitute a

## GUIDE TO THE MACROBERTSON RACE

Details of competing machines, notes about competitors, and news of the final preparations at Mildenhall will be included, as well as a series of exclusive illustrations of instructive value.

Regular features of the journal will be retained.

*The succeeding issue, dated October 25th, will give further last-minute news of the race, scenes at the official start and progress of the competitors, and much other information of general interest.*

## ORDER EARLY!

**FLIGHT** of October 18th and October 25th.

## A MINIATURE "SHELL" LABORATORY

Visitors to the Olympia Motor Show (October 11-20) will be able to see, on the Shell-Mex and B.P. stand, several chemists engaged in some of the routine tests to which all Shell oils and greases are submitted.

## NEW COMPANIES

**AGRA ENGINEERING COMPANY (1934), LTD.** The Agra Garage, Northumberland Place, Teignmouth, Devon. Capital, £7,000 in £1 shares. Objects: To acquire the undertaking of the Agra Engineering Company, Ltd., and to carry on the business of dealers in and proprietors, charterers, designers, builders, manufacturers, repairers and warehousemen of aircraft, motor cars, cycles, boats and lorries, bicycles, carriages and vehicles of all kinds, proprietors of garages and aerodromes, hangars, landing places, repair shops and petrol-filling stations, promoters of motoring and aerial navigation, engineers, manufacturers of manure distributing machines etc. The first directors are: William R. Parkhouse, "St. John's," Coombe Road Teignmouth, Devon, engineer; John H. H. Parkhouse, Fox and Hounds Hotel, Eggesford, Wembworthy, Devon, licensed victualler and hotel proprietor. Solicitor: Theodore H. E. Edwards, Teignmouth.

## INCREASES OF CAPITAL

**CHALLINOR, CUNLIFFE & RODGER, LTD.** (manufacturers of aeroplanes, motor cars, etc., The Stoke Garage, Copeland Street, Stoke-on-Trent). The nominal capital has been increased by the addition of £2,000 in £1 ordinary shares beyond the registered capital of £500.

## PUBLICATIONS RECEIVED

*A History of the Royal Air Force College, Cranwell.* By Captain R. de la Bere. London: Gale and Polden, Ltd.

*Hutchinson's Technical and Scientific Encyclopedia.* Part 1. Price 1/6. London: Hutchinson & Co. (Publishers) Ltd.

*The Automobile Association of South Africa—Transvaal Division.* Handbook. 1934-1935. The Automobile Association, South Africa.

*Report on the Progress of Civil Aviation, India.* 1933-34. Price 8/6. Directorate of Civil Aviation, Government of India.

*Elektron Magnesium Alloys.* Second Edition. 1934. Coventry: Sterling Metals, Ltd.

*Richthofen: The Red Knight of the Air.* By "Vigilant." Price 7/6 net. London: John Hamilton Ltd.

*Copper Through the Ages.* Issued by the Copper Development Association. Thames House, Millbank, S.W.1.

## AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. (The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

### APPLIED FOR IN 1933

Published October 11th, 1934.

7240. **GES. FÜR ELEKTRISCHE APPARATE.** Method of and apparatus for the measurement of altitude and other values from aircraft. (416,382).

13564. **DUNLOP RUBBER CO., LTD., GOODYEAR, E. F. WRIGHT, J., and TREVASKIS, H.W.** Aircraft brakes. (416,440).

13730. **HARTSHORN, A. S.** Control surfaces for air and water craft. (416,326).

19393. **QUILTER, R. C. and GREGORY, J.** Parachute harness for aviators. (416,303).